

Figure 1

001E80-82125960

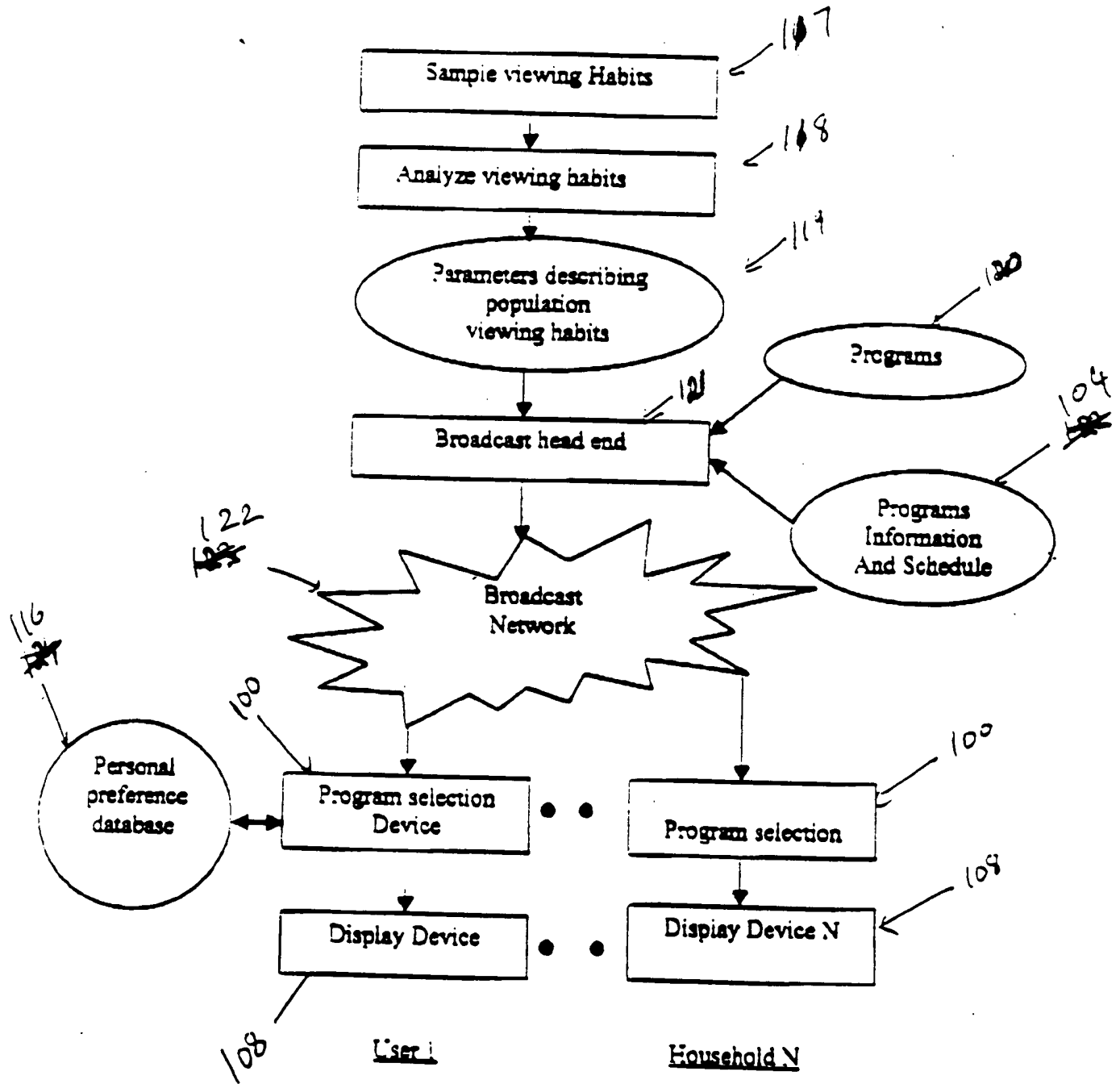


Figure 2

Examples of Program Information

<p>Title = Seinfeld Program Type = Sitcom Category = Comedy Actors = (Actor1 , Actor2)</p>	<p>Title = US Debt Report Program Type = News article Category = US Govt. Financial People Mentioned = (Bill Clinton, Alan Greenspan)</p>
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Example 1

Example 2

Figure 3

001E80-82725969

124

125

Examples for traits

Movie
Adventure
Sports
Mad About You
dynamic trait 1
Dynamic trait 2
NBC NEWS
FRIDAY Movie
Premier Mad About You

↑
126

Examples for Liking for viewer N

Movie = 14
Adventure = 1
Sports = 0.3
Mad About You = 5
dynamic trait 1 = 3
Dynamic trait 2 = 5
NBC NEWS = 13
FRIDAY Movie = 18
Premier Mad About You = 15

↑
127

Figure 4

001E80 827E5950

001E30 82725950

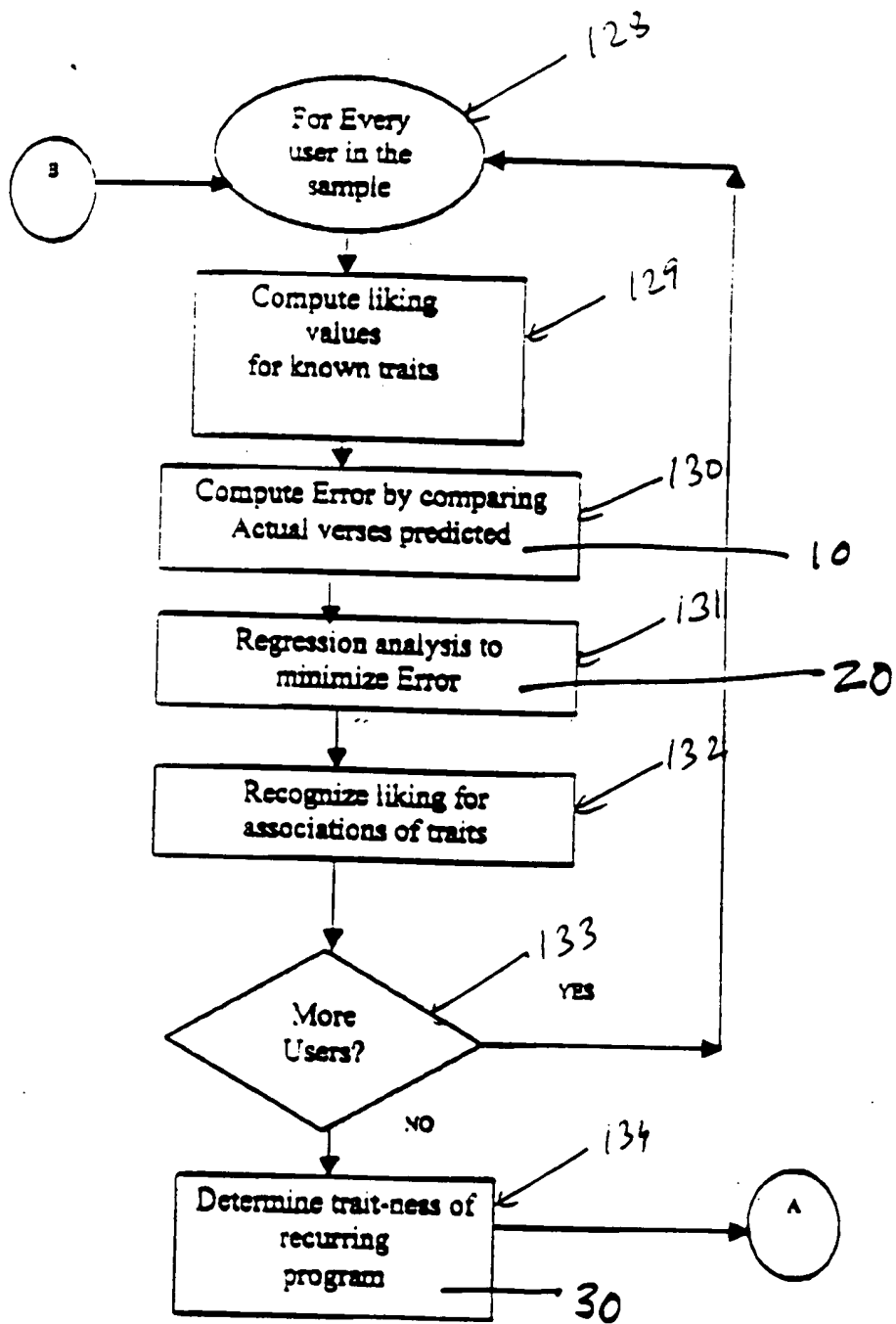


Figure 5(a)

004680-82425950

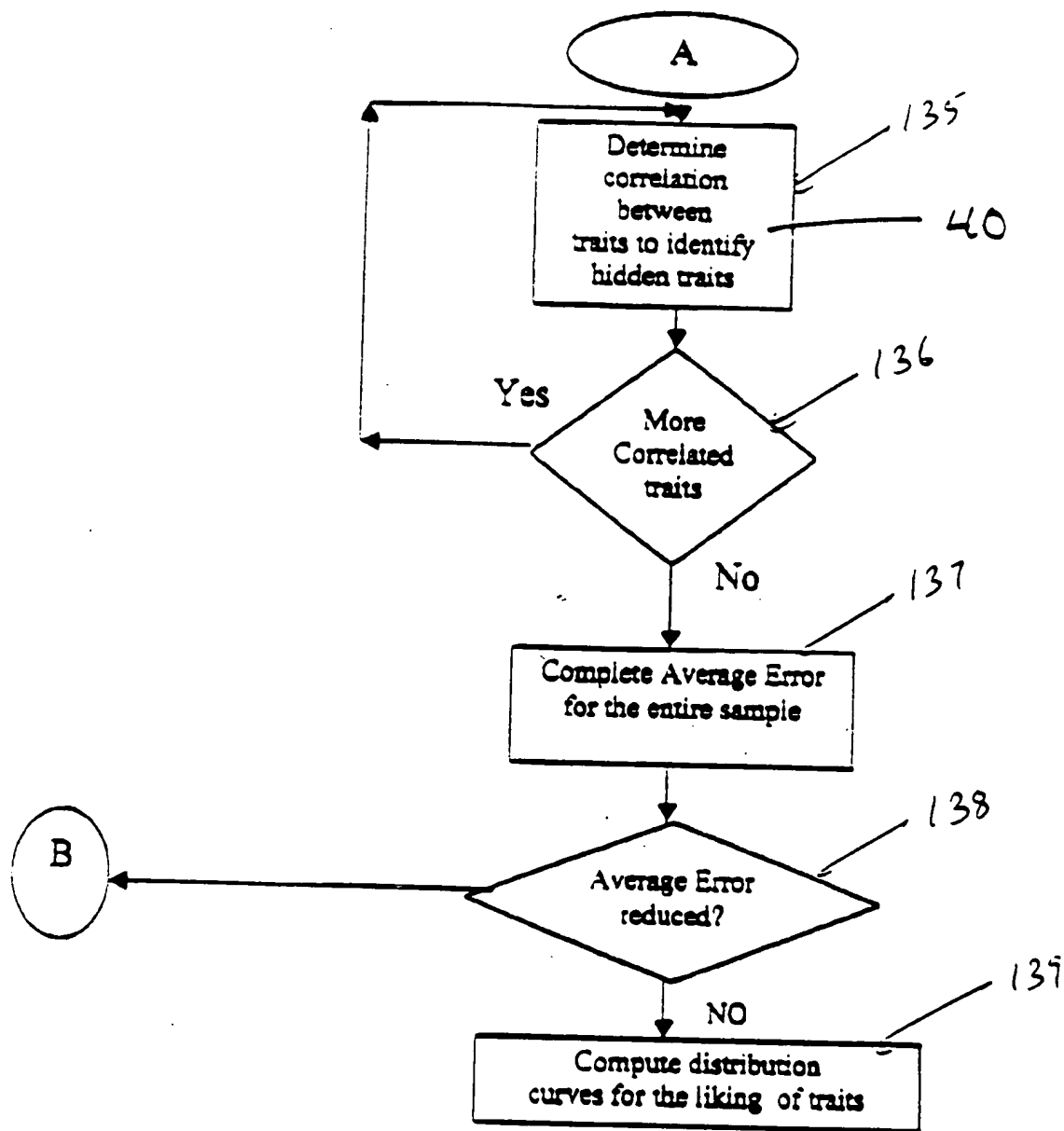


Figure 5(b)

001E80 82725980

Sorted in
descending order
of
Liking

Error = 3

Program 4 (0.7)
Program 7 (0.68)
Program 3 (0.58)
Program 13 (0.44)

Program 2 (0.03)

Program 18 (.07)
Program 15 (0.68)
Program 12 (0.58)
Program 13 (0.44)

Program 53 (0.03)

Program N1 (.07)
Program N2 (0.68)
Program N3 (0.58)
Program 13 (0.44)

Program N15 (0.03)

Error = 15

Figure 6

CURRENT LIKING VALUE

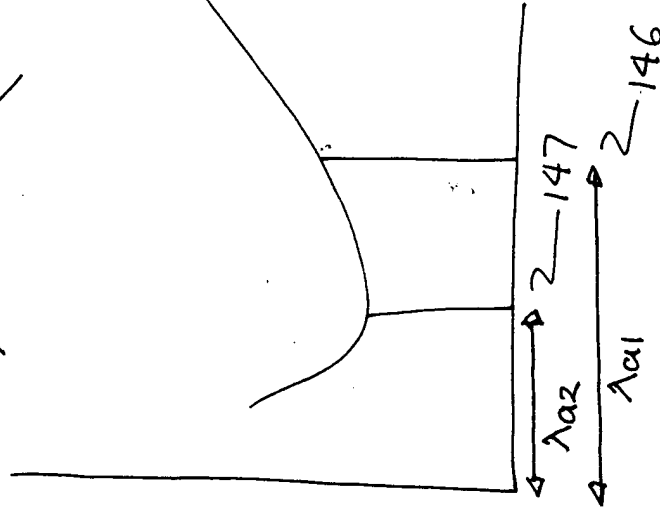
$$\begin{aligned} \lambda_{a1} &= 2 \\ \lambda_{b1} &= 5 \\ \lambda_{c1} &= -3 \\ \lambda_{d1} &= 0 \end{aligned} \quad \begin{array}{l} \text{---} 144 \\ \text{---} 145 \end{array}$$

Average t_N

20

148 NEXT LIKING VALUE

$$\begin{aligned} \lambda_{a2} &= 1.5 \\ \lambda_{b1} &= 5 \\ \lambda_{c1} &= -3 \\ \lambda_{d1} &= 0 \end{aligned}$$



$$\lambda_a$$

$$\lambda_b = \lambda_{b1}$$

$$\lambda_c = \lambda_{c1}$$

\vdots

FIGURE 7.

RECOGNIZING HIDDEN TRAITS IN PROGRAMS

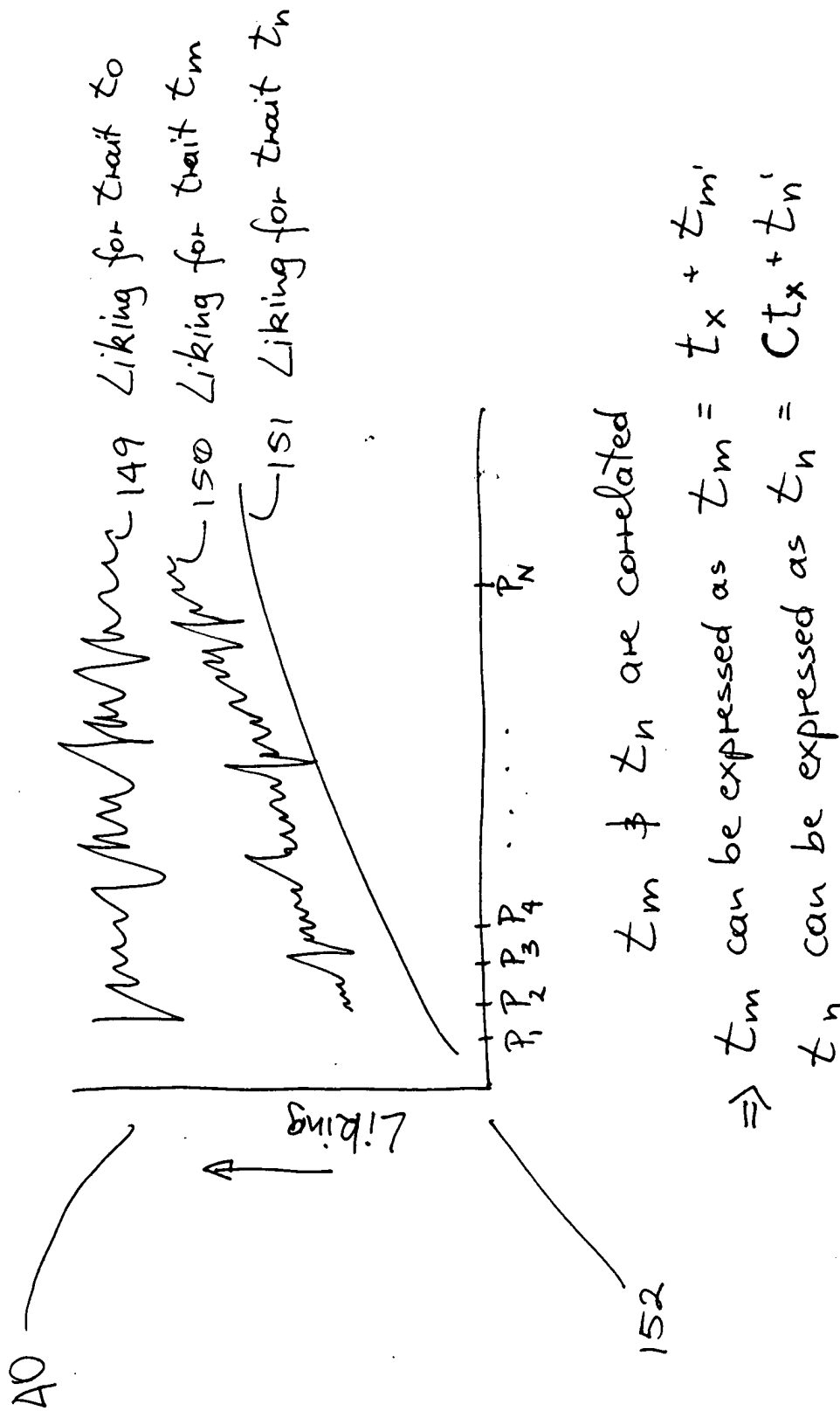


FIGURE 8

Computing Traitness of a trait is a program

30

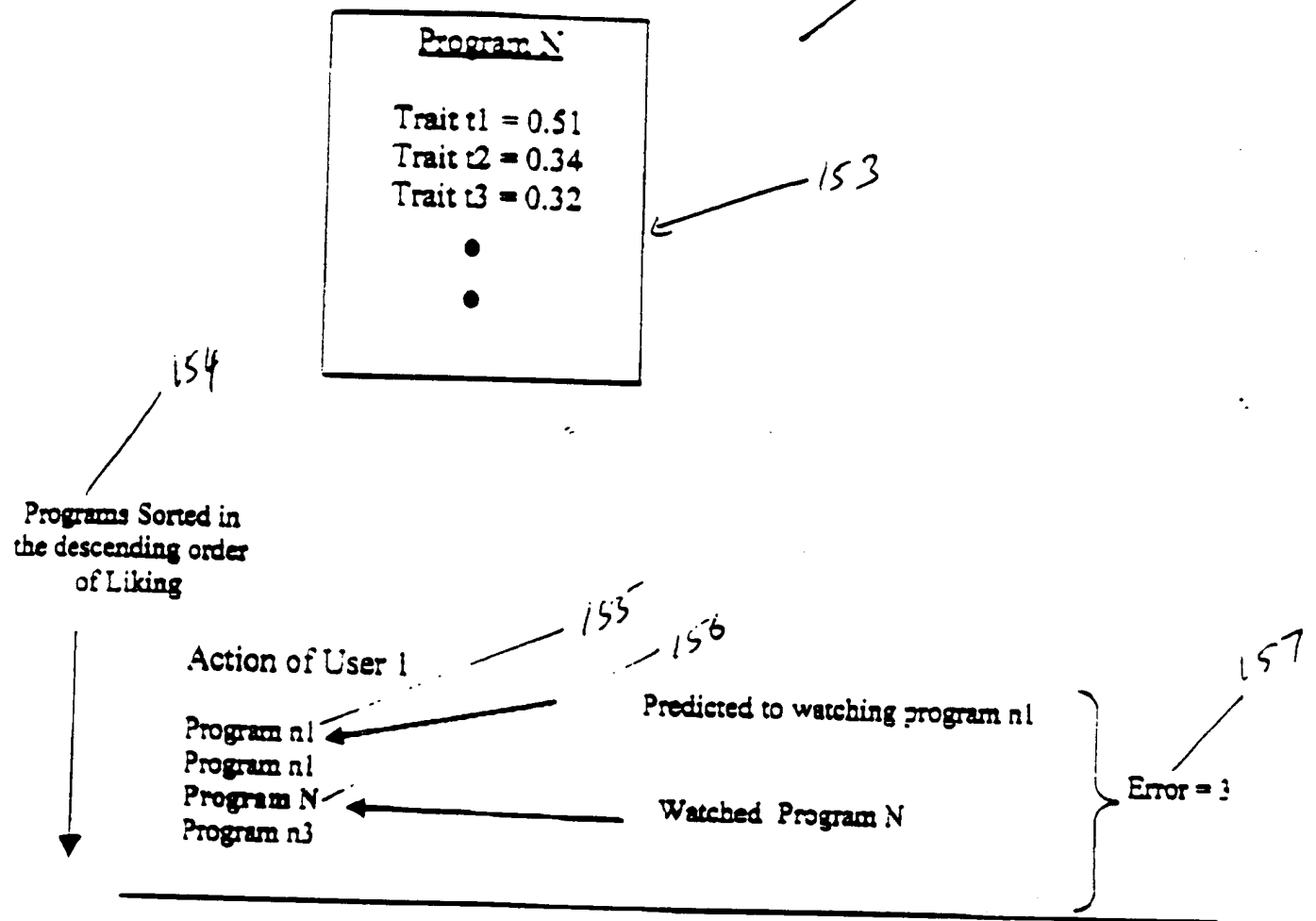
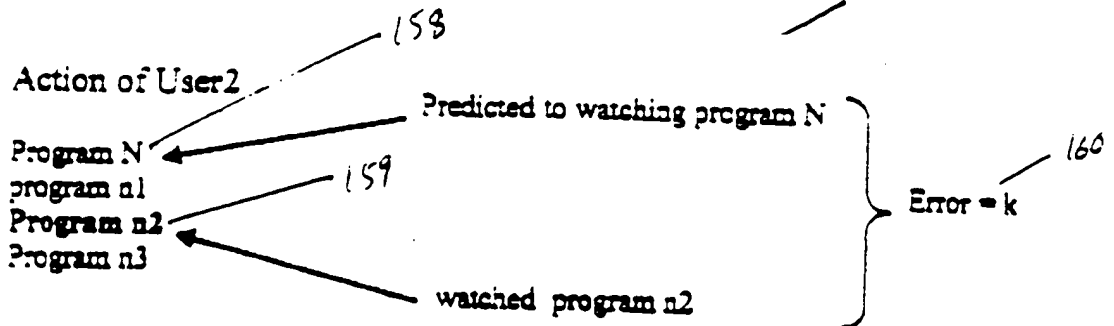


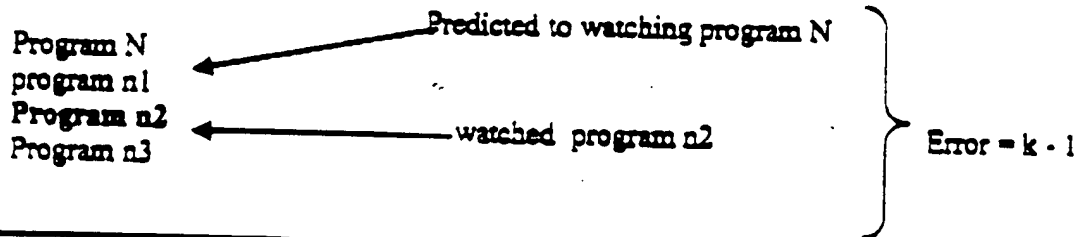
Figure 9(a)

Computing Traitness of a trait a program

30



Action of User3



Action of User4

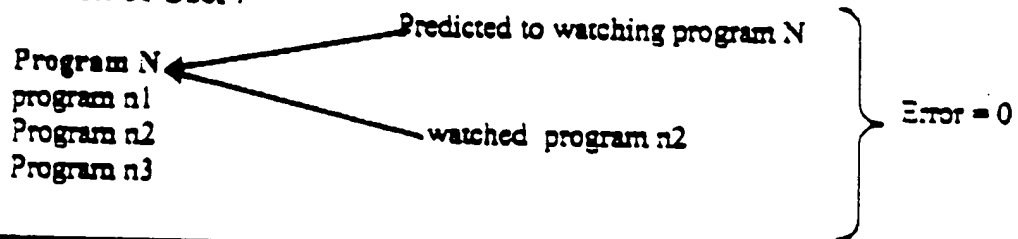


Figure 9(b)

001E30 92425550

COMPUTING TRAITNESS OF A TRAIT IN A PROGRAM

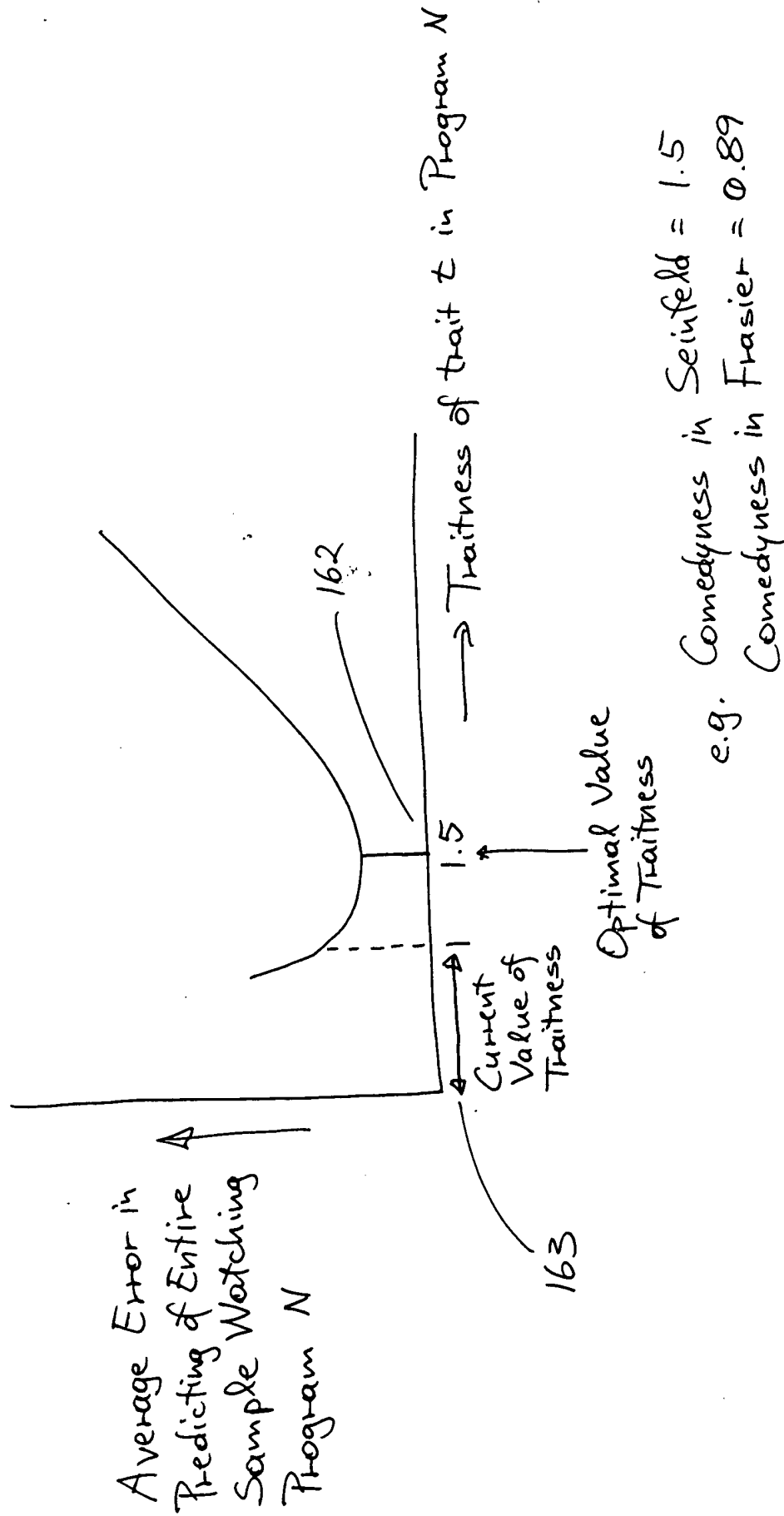


FIGURE 9(c).

Example for Liking Distribution Record format

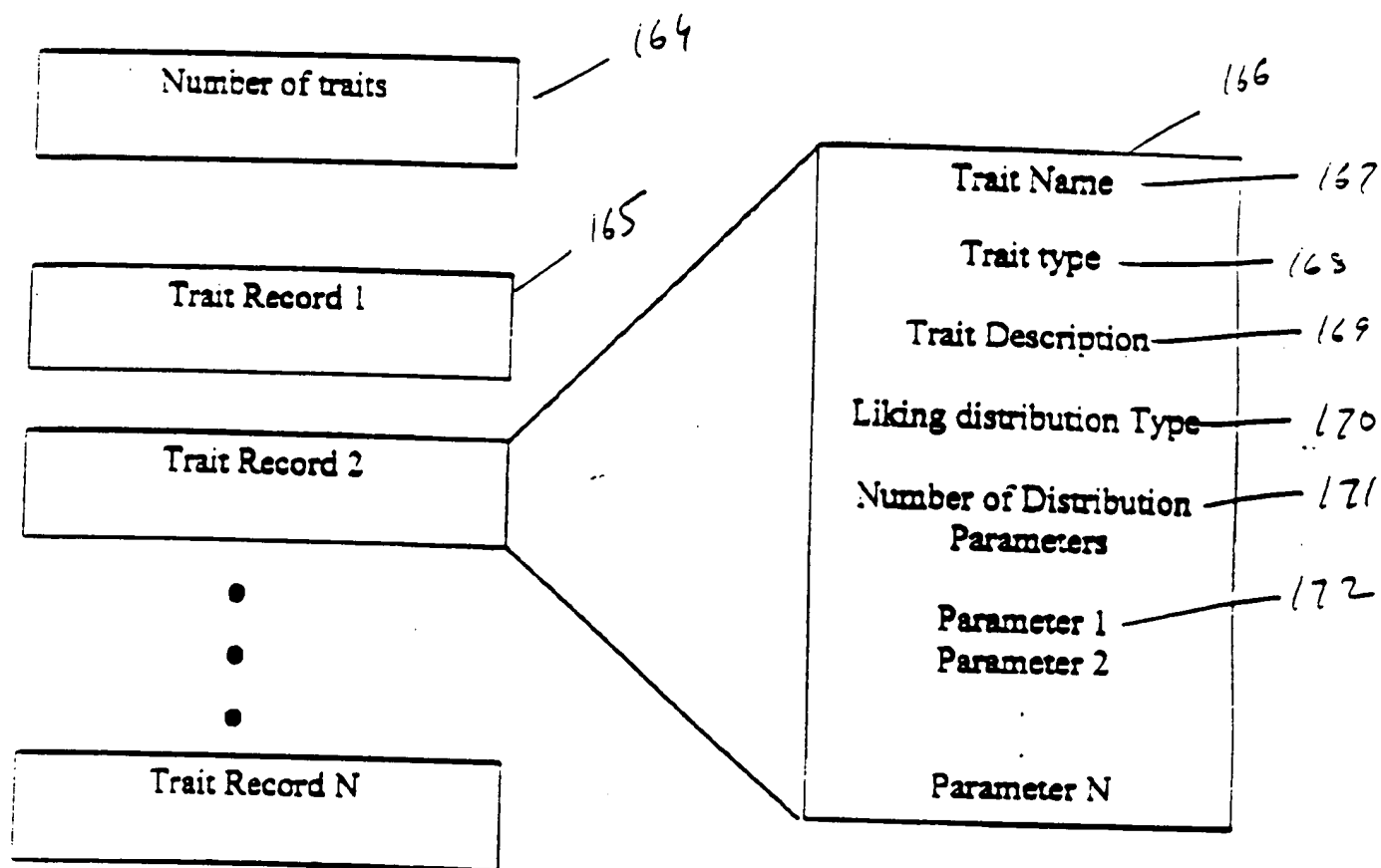


Figure 10

Some Sample Values For Fields in trait Record

Trait type

Static ,
dynamic
Association
Generated

Trait Description

(NBC , "NEWS").
SUBSTRING("CIA") IN DESC.
TITLE

Distribution

Normal
Exponential
Defined type 1
Defined type 2

Distribution Parameters

Mean = 13, Deviation =2

Figure 11

007E80-82425960

Example for Traitness of recurring Programs

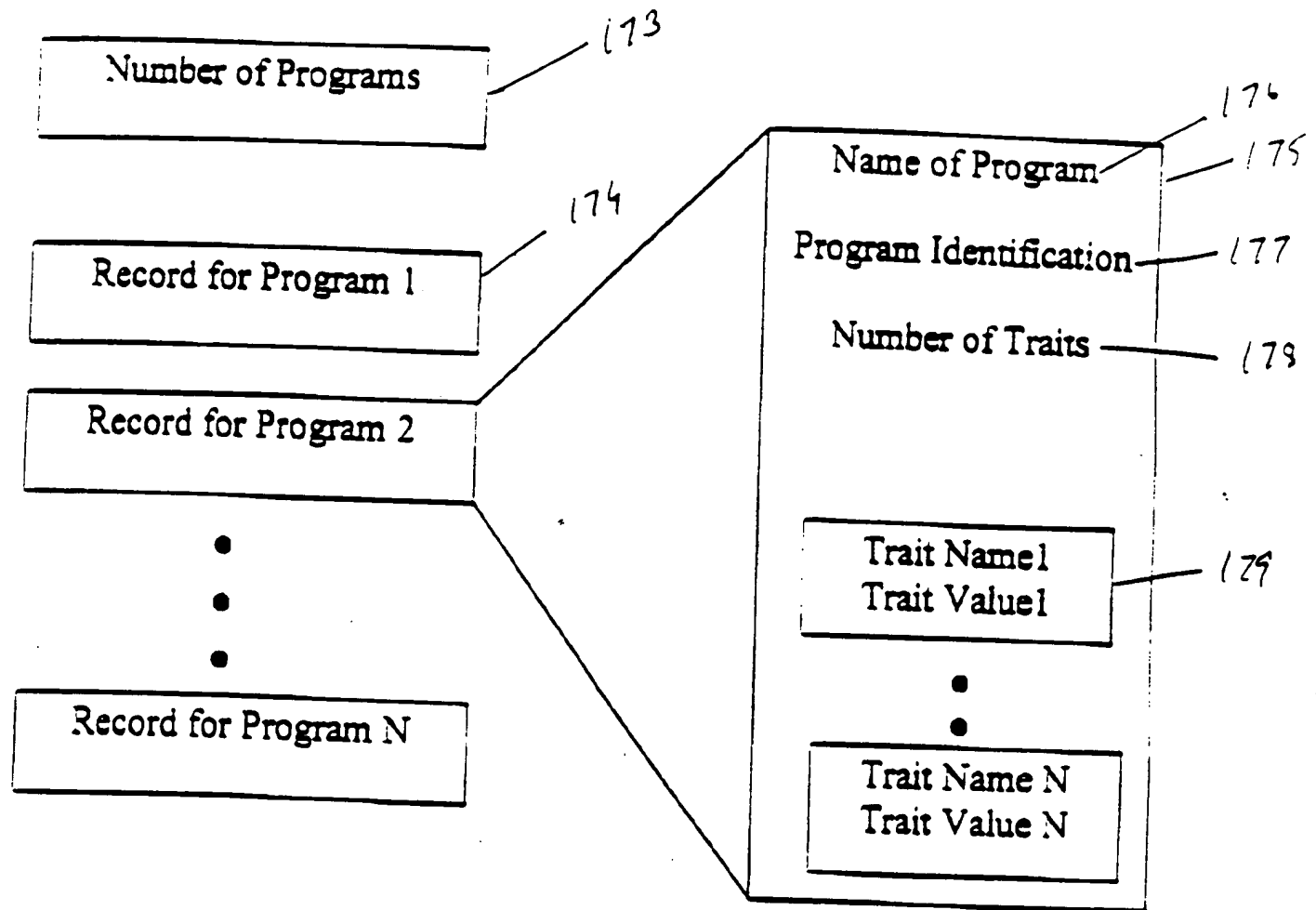


Figure 12

001300 02125900

Example For Broadcasting traitness as a part of EPG Data

Program Info

Seinfeld,

NBC ,

Comedy = 0.07

sitcom ,

Dynamic trait 1 = 0.1

•

•

Actor = Seinfeld

Figure 13

001E80-82425960

Example for Selection Record

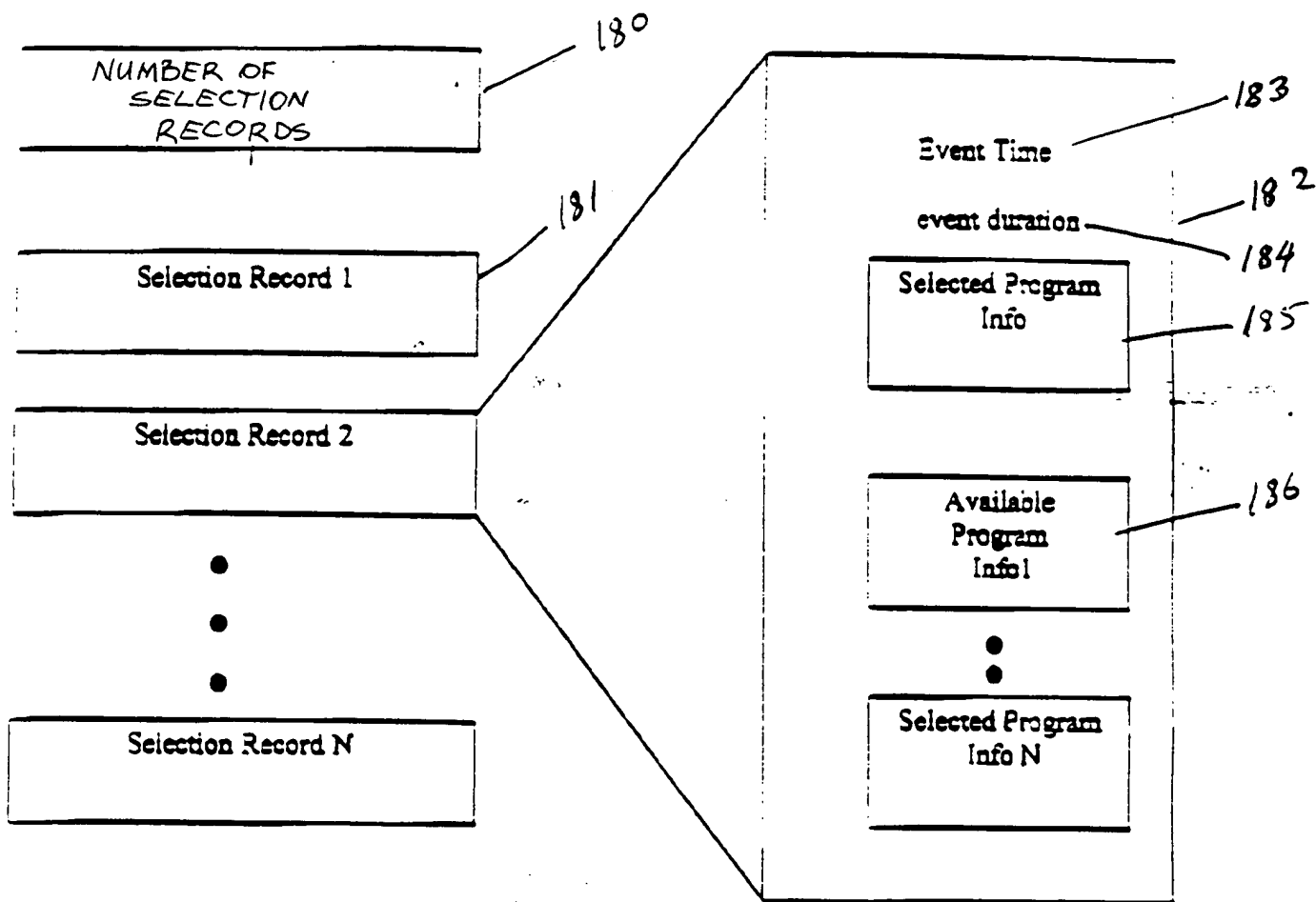


Figure 14

Generation of User Selection History

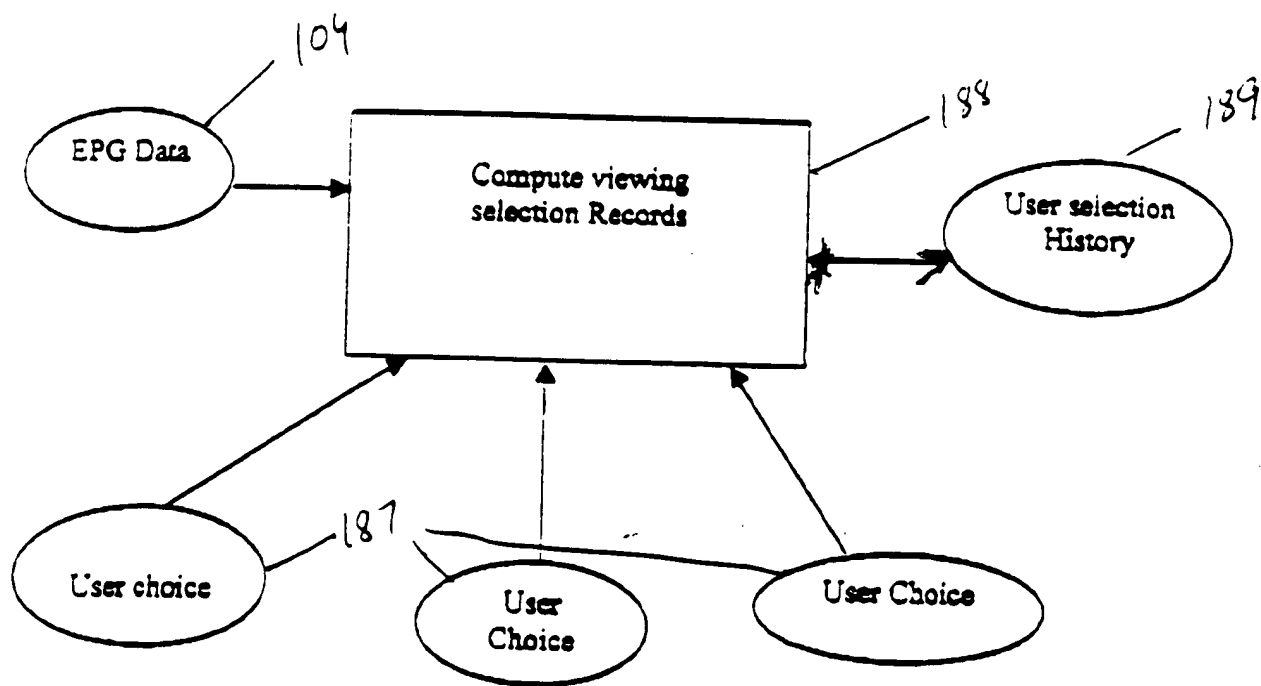


Figure 15

001E80-B24E5960

Learning Liking for traits for a given user

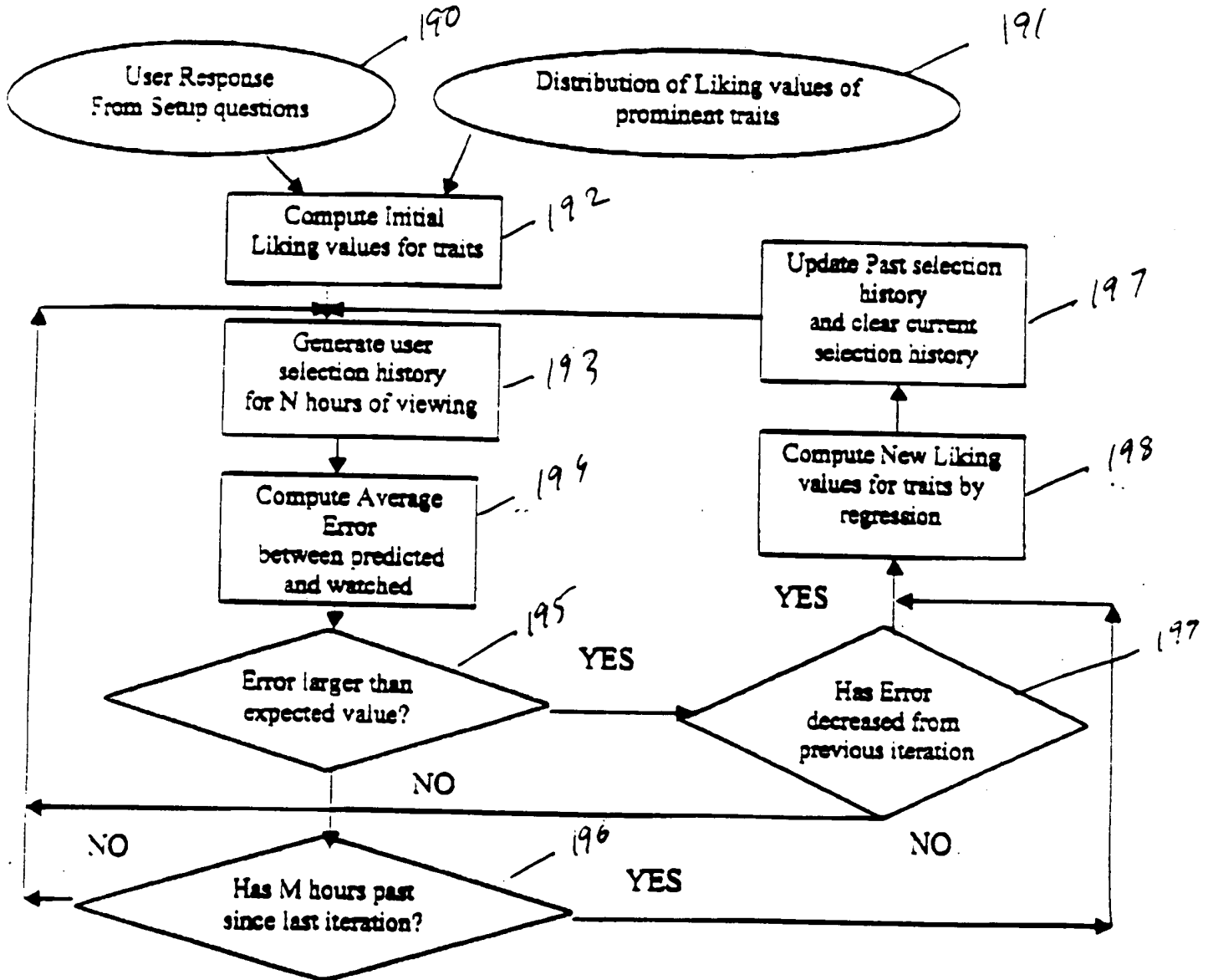


Figure 16

Computing Relevance

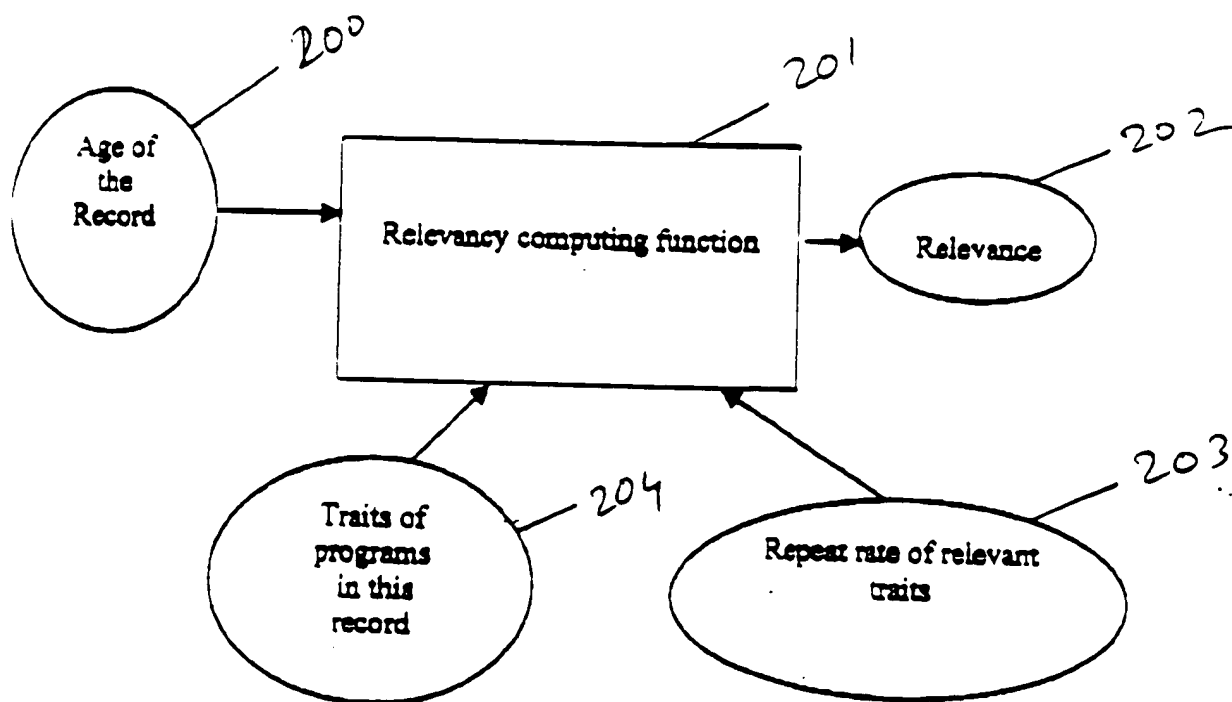


Figure 17 (a)

001E80 87425560

Relevancy

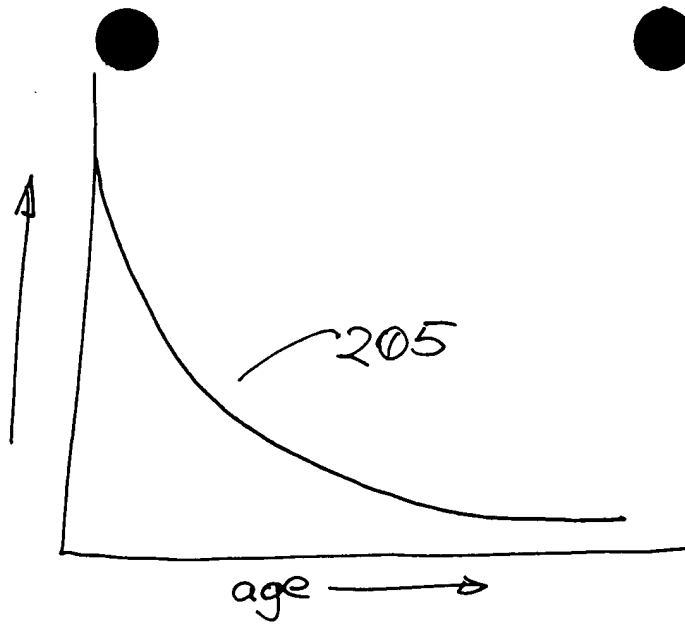


FIGURE 17(b)

Relevancy

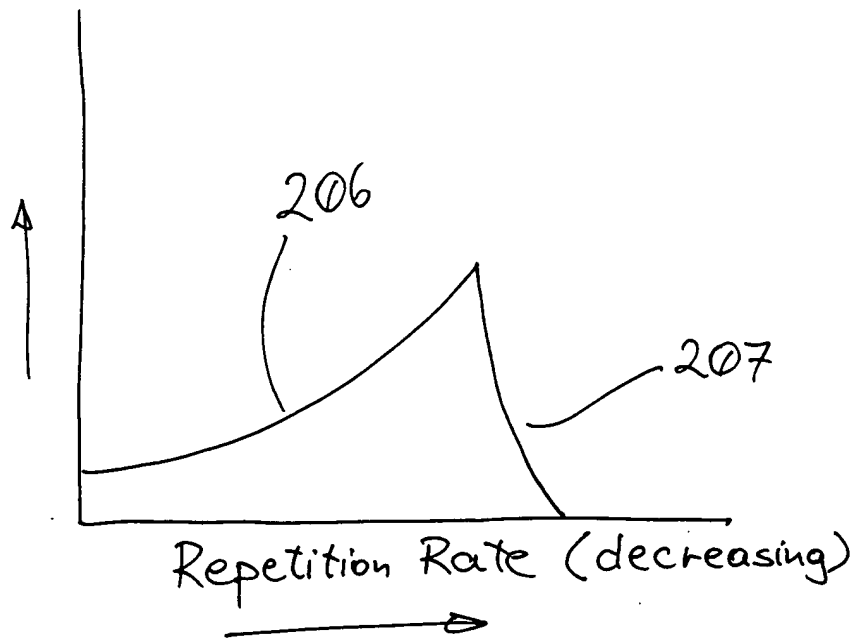


FIGURE 17(c)

0955478-08310
DOT E80-B2425960

Updation of past History

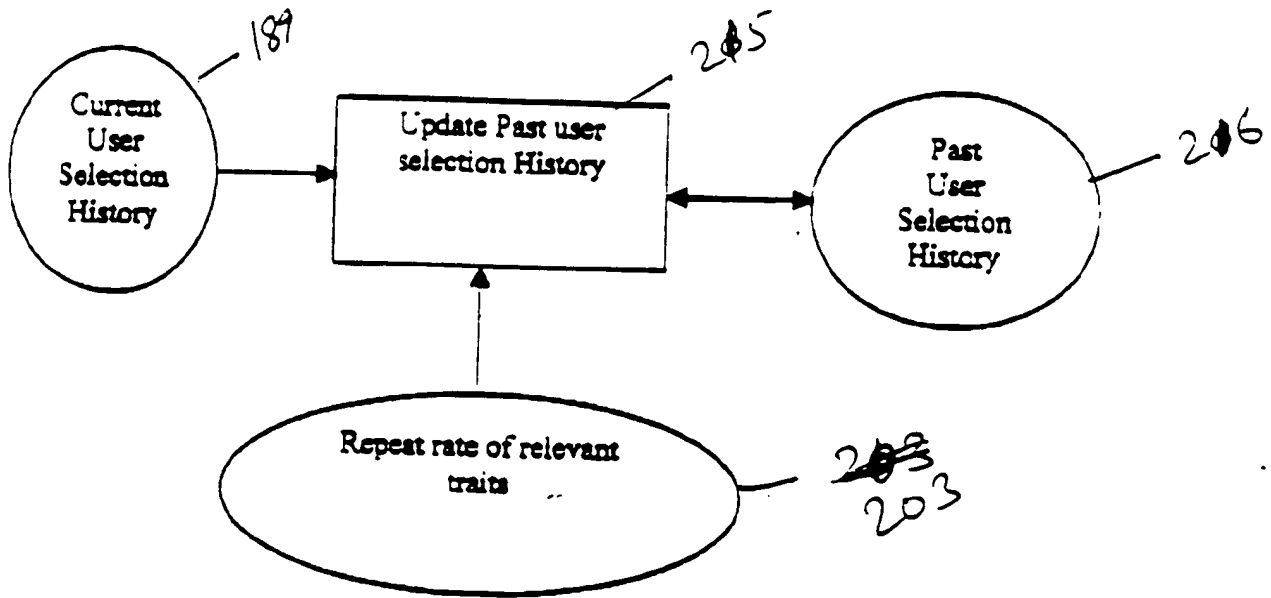


Figure 18(a)

001E80-82425900

00430 82425950

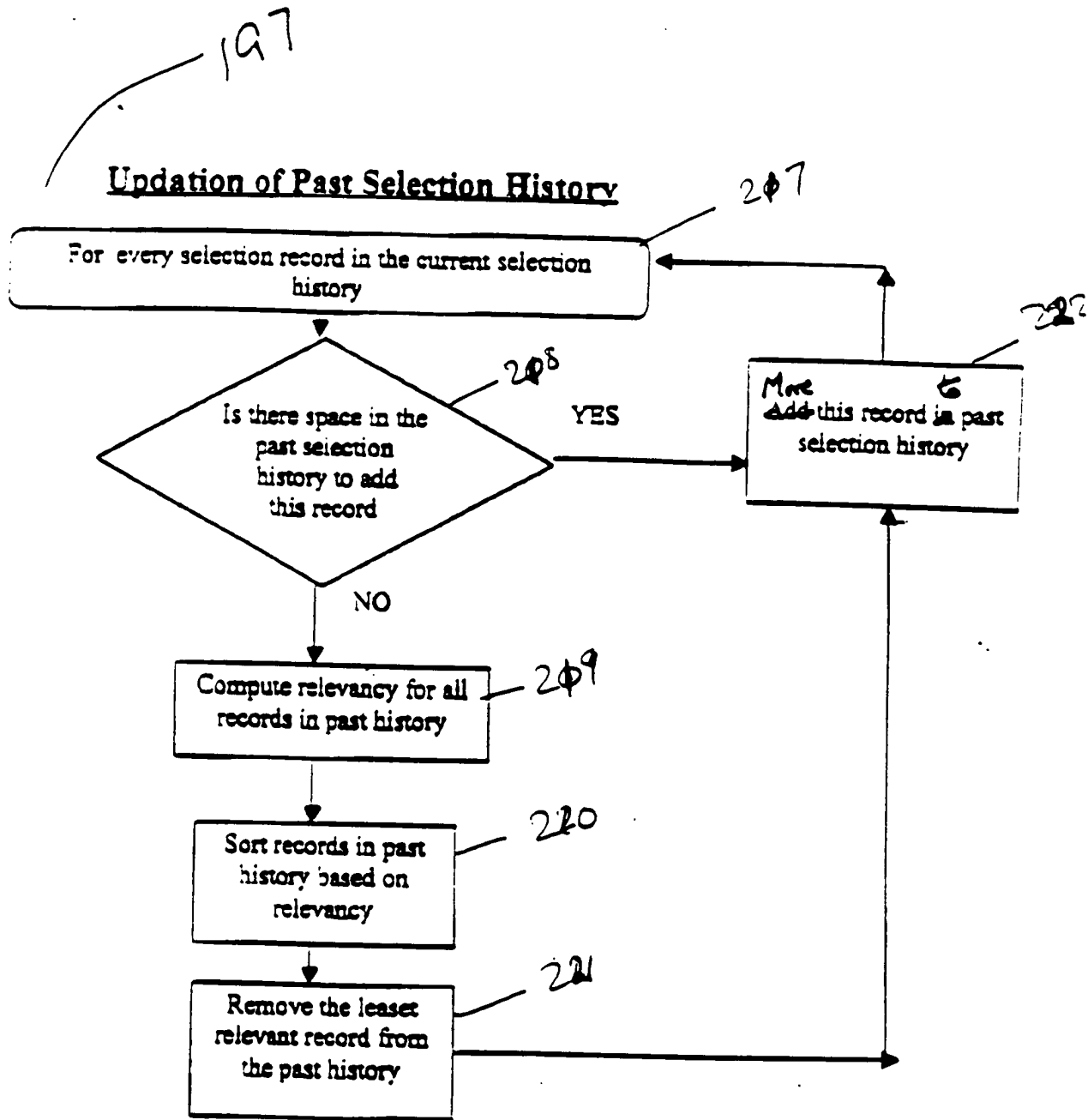


Figure 18(b)

Computing liking on clientside

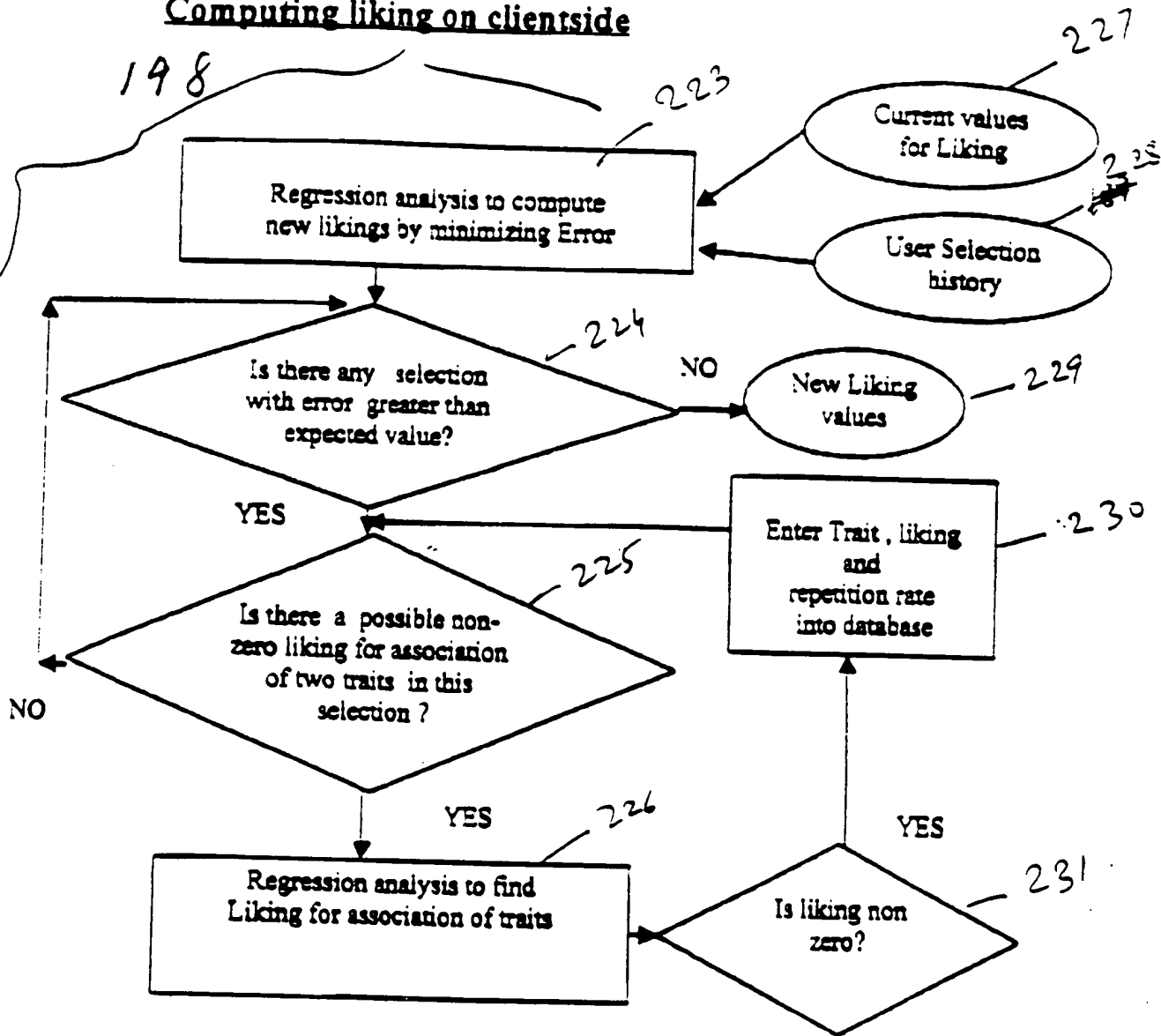


Figure 19

Computing scores for programs for future prediction

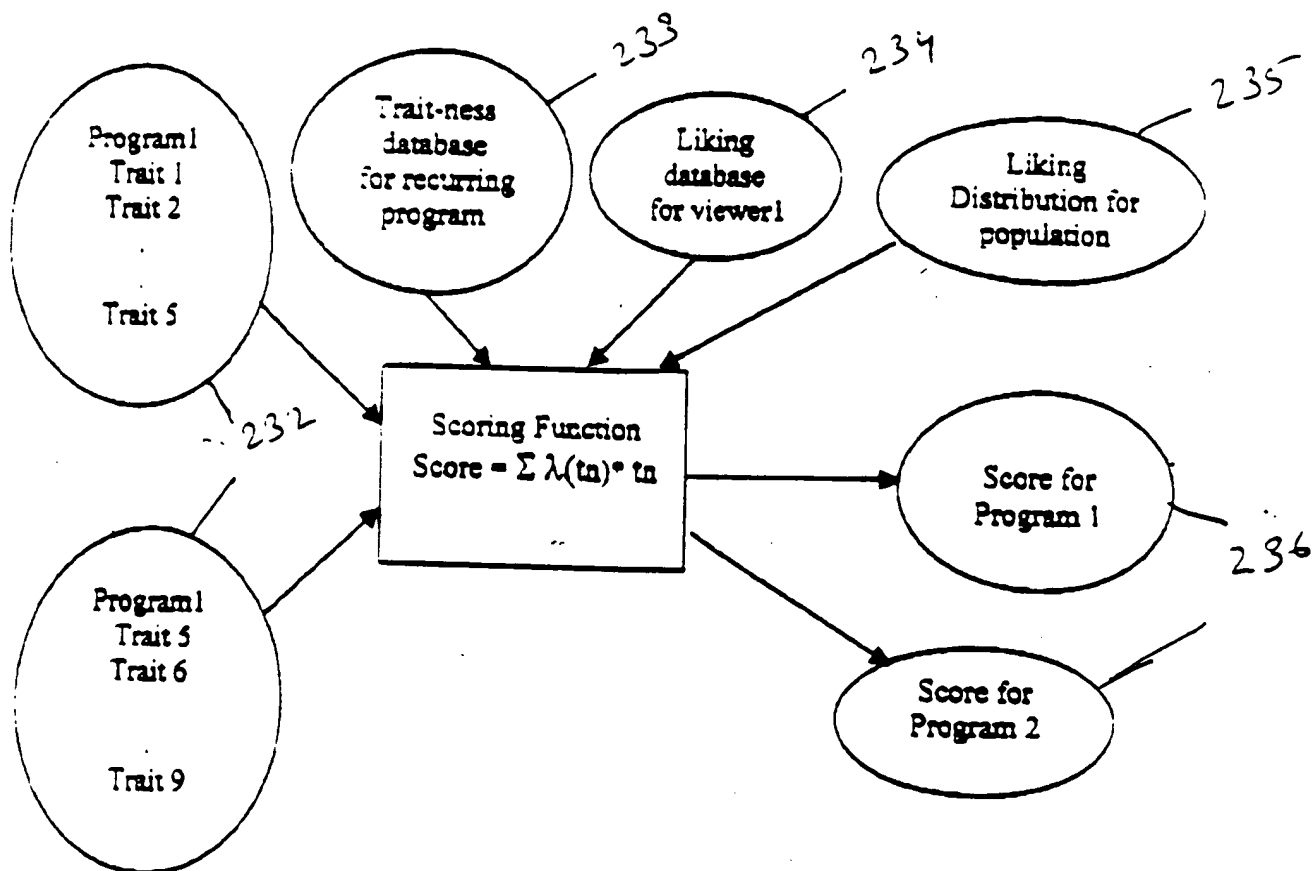


Figure 20

Distribution of Income in Sample

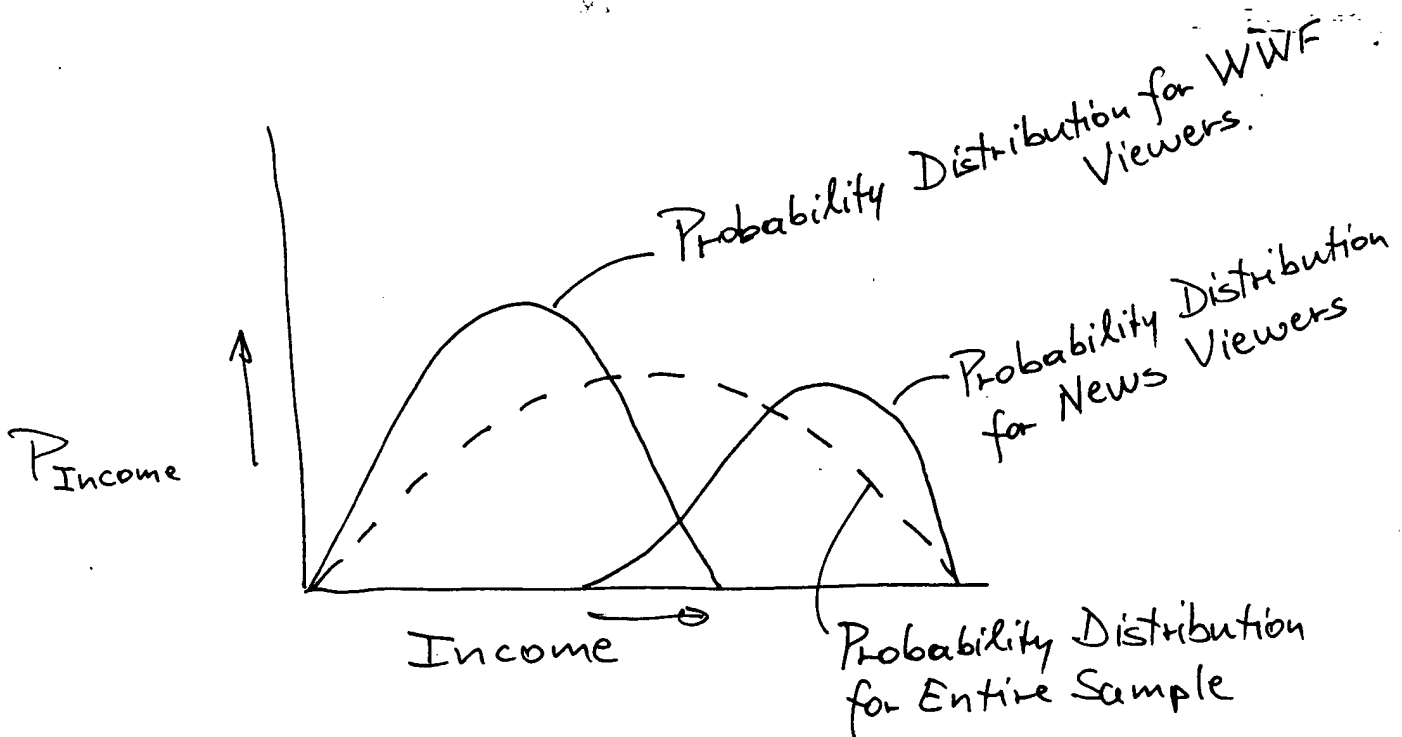
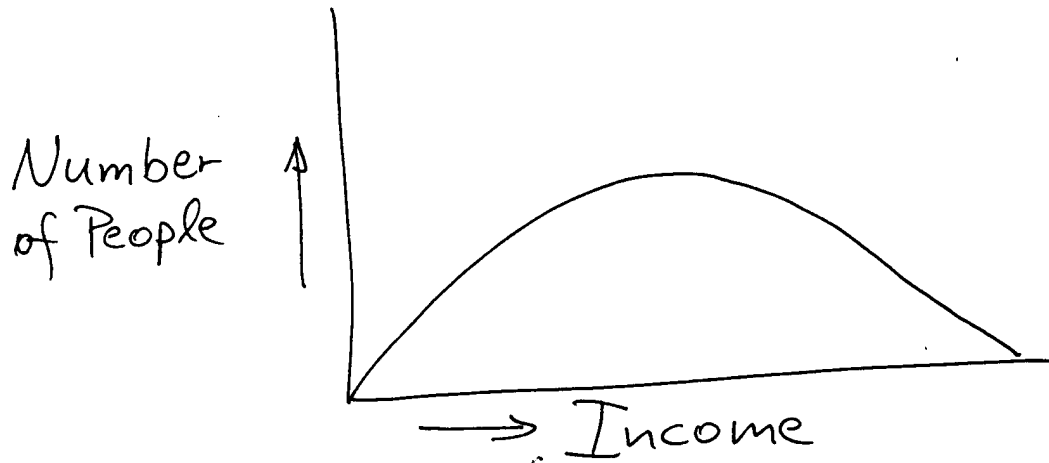
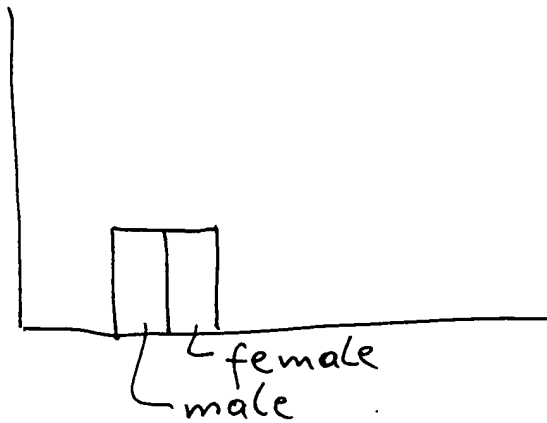
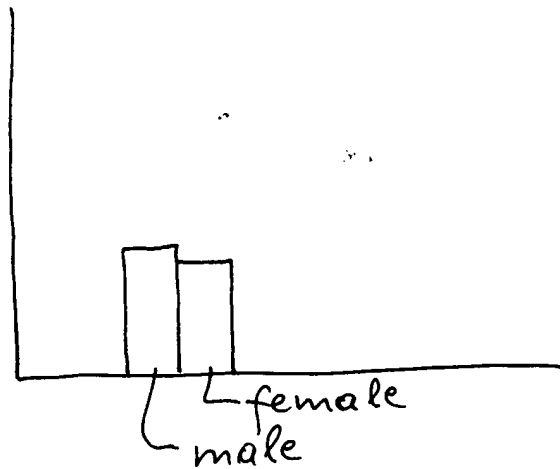


FIGURE 21(a)

P
Entire
Sample



P
Viewers of
'Seinfeld'



P
Viewers of
'Days of Our Lives'

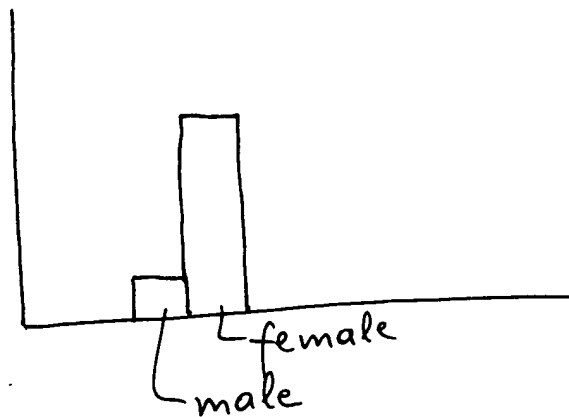


FIGURE 21(b)

SYSTEM ARCHITECTURE

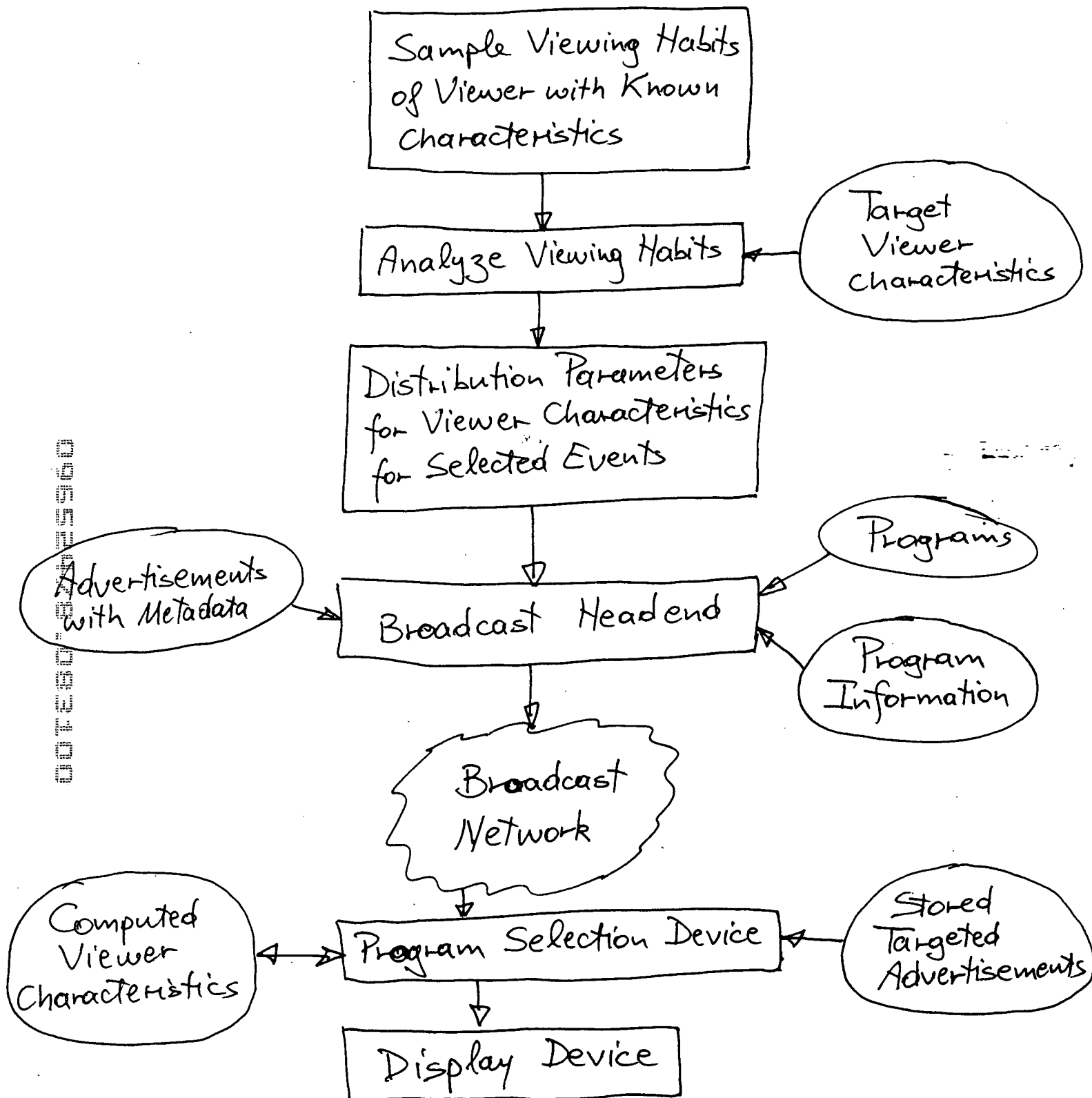


FIGURE 22

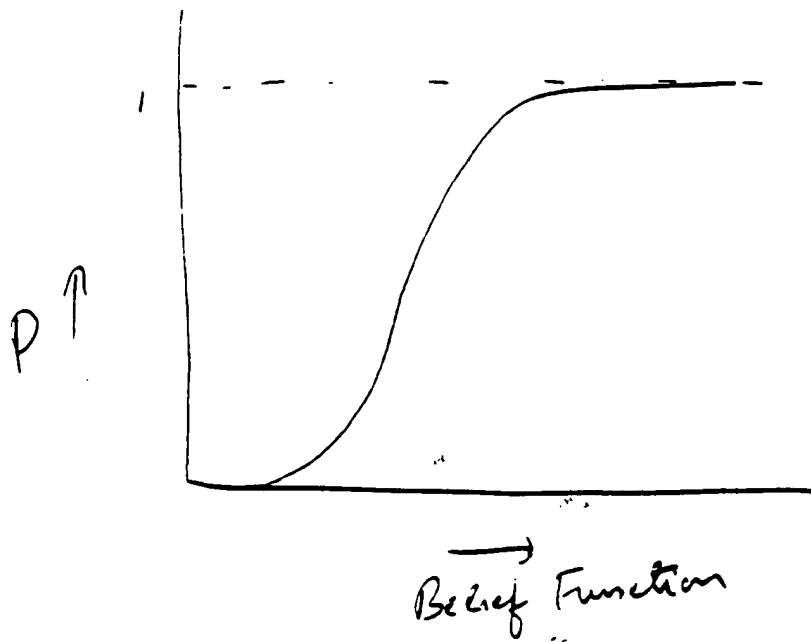


Figure 23 a

001E80 82425500

Demographic Trait Record format

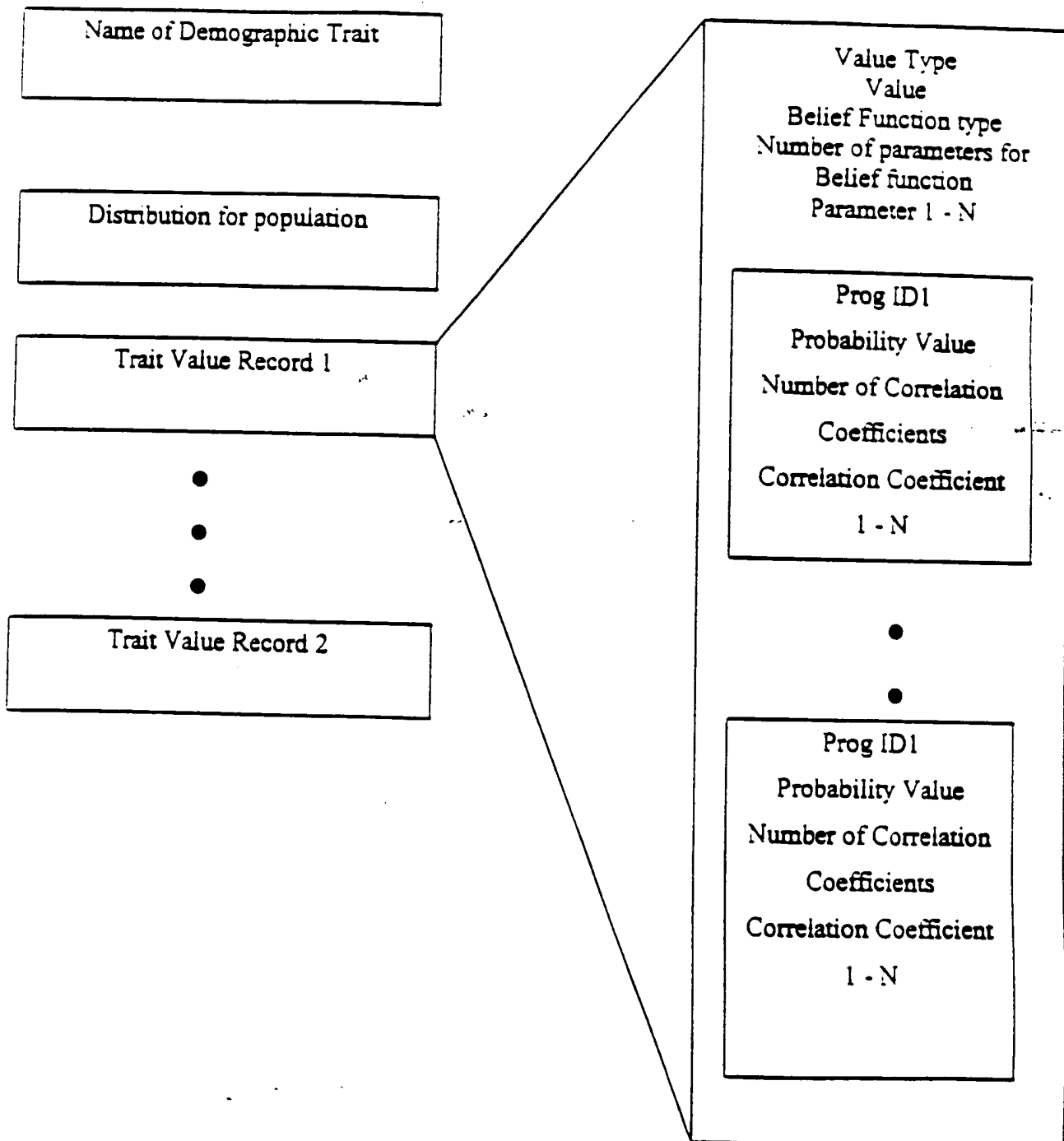


Figure 23b

Advertisement Targeting Record format

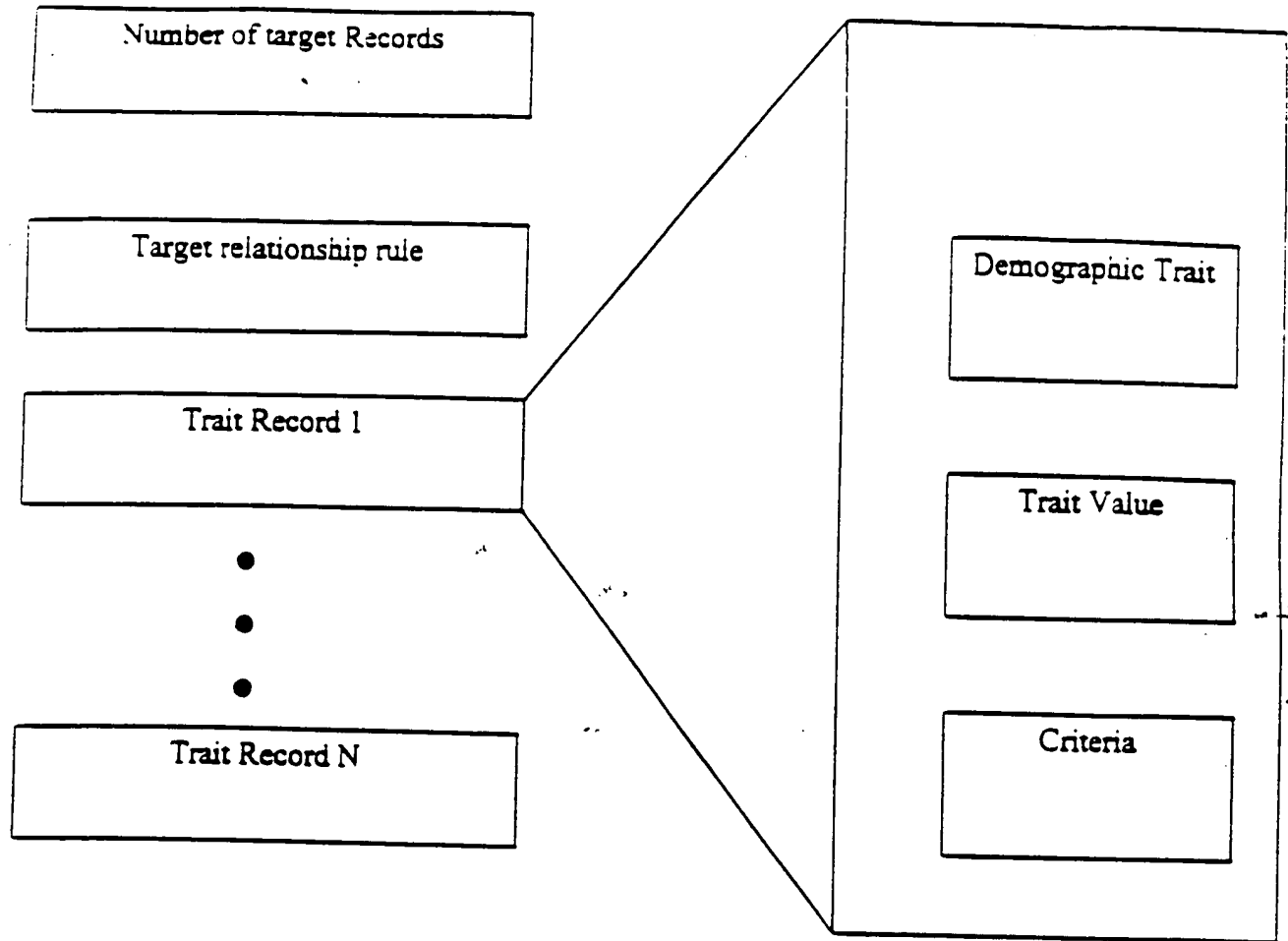


Figure 23c

001E80 824E5960

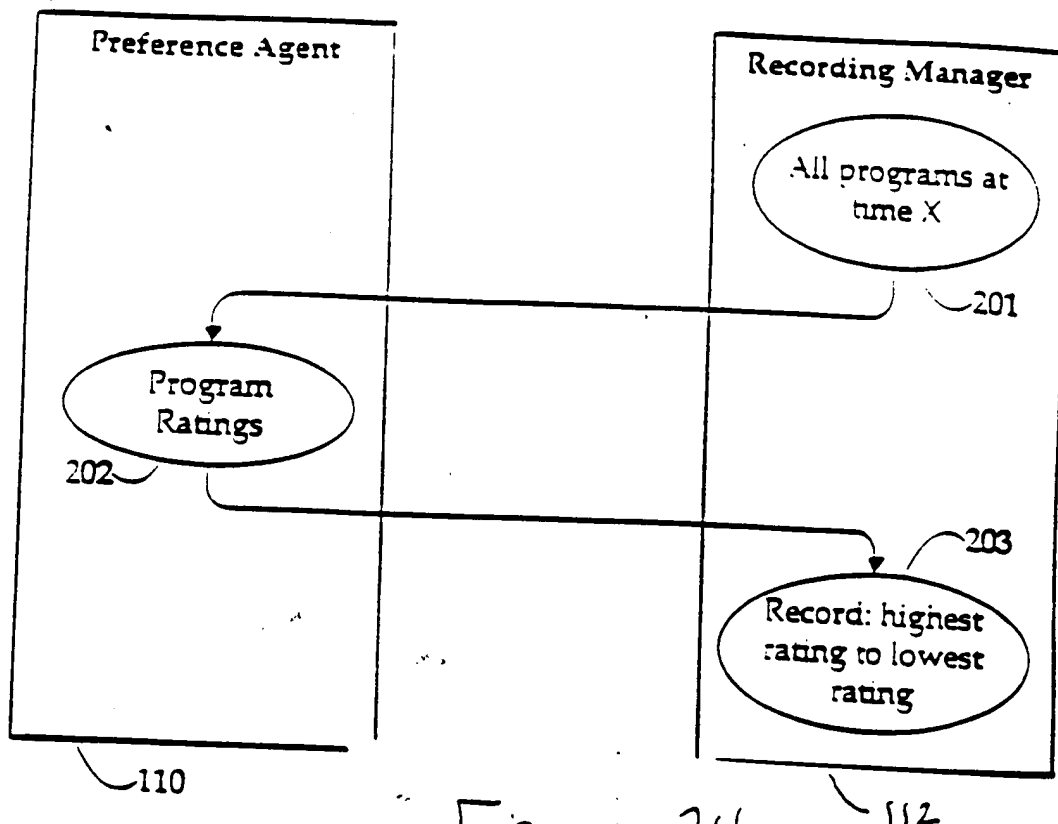


Figure 24

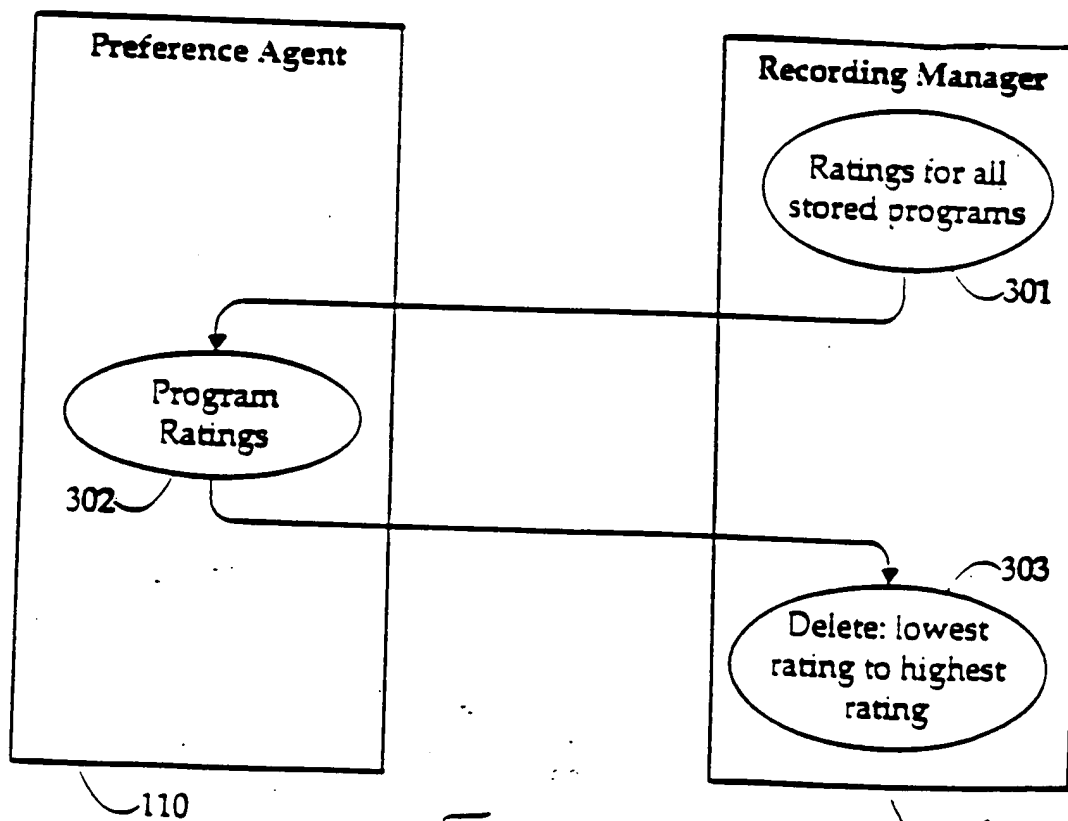


Figure 25

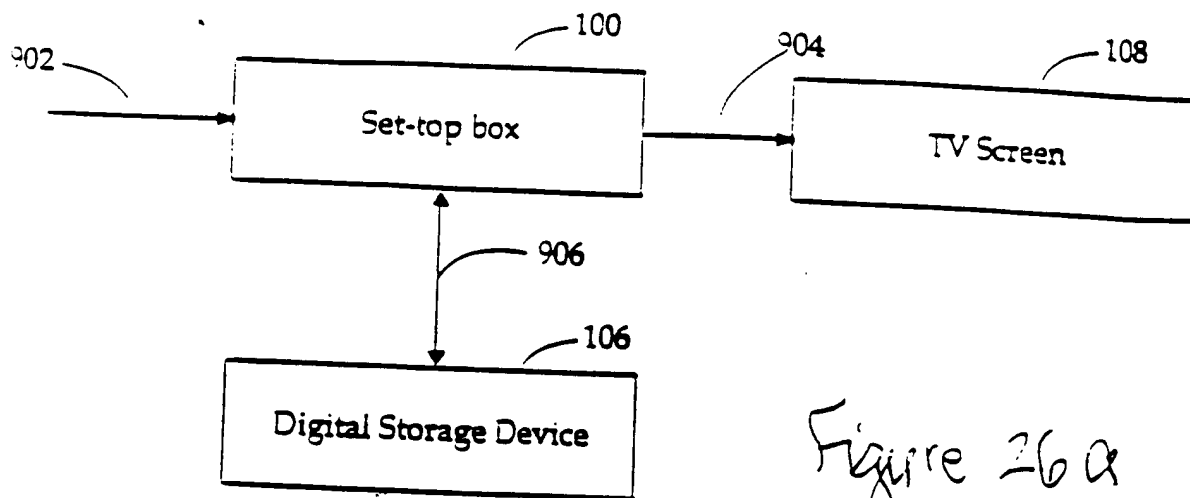


Figure 26a

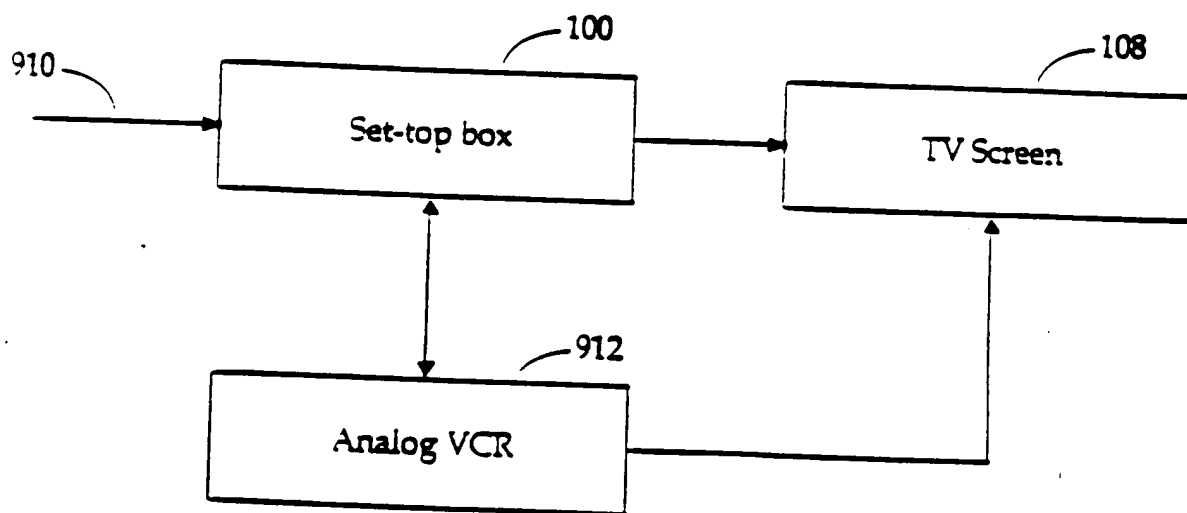


Figure 26b

001E30-32125960

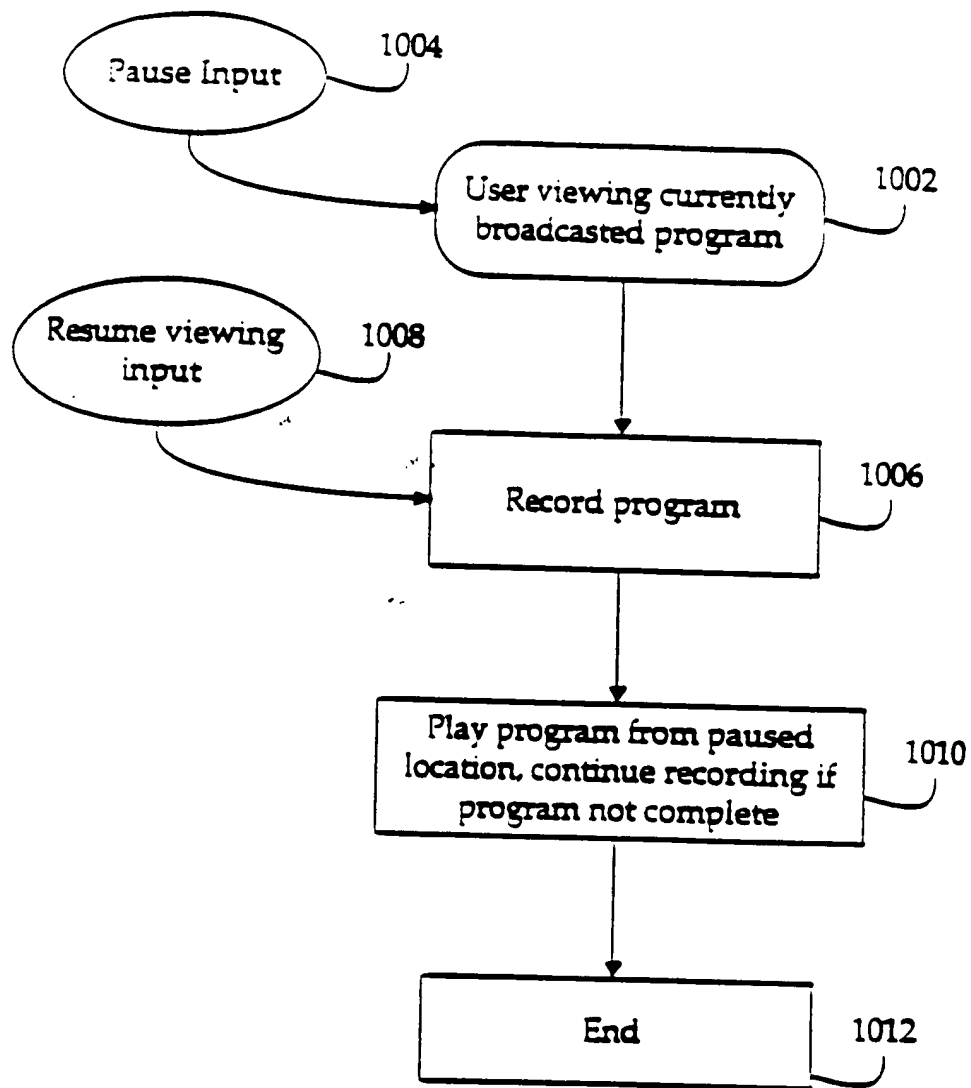
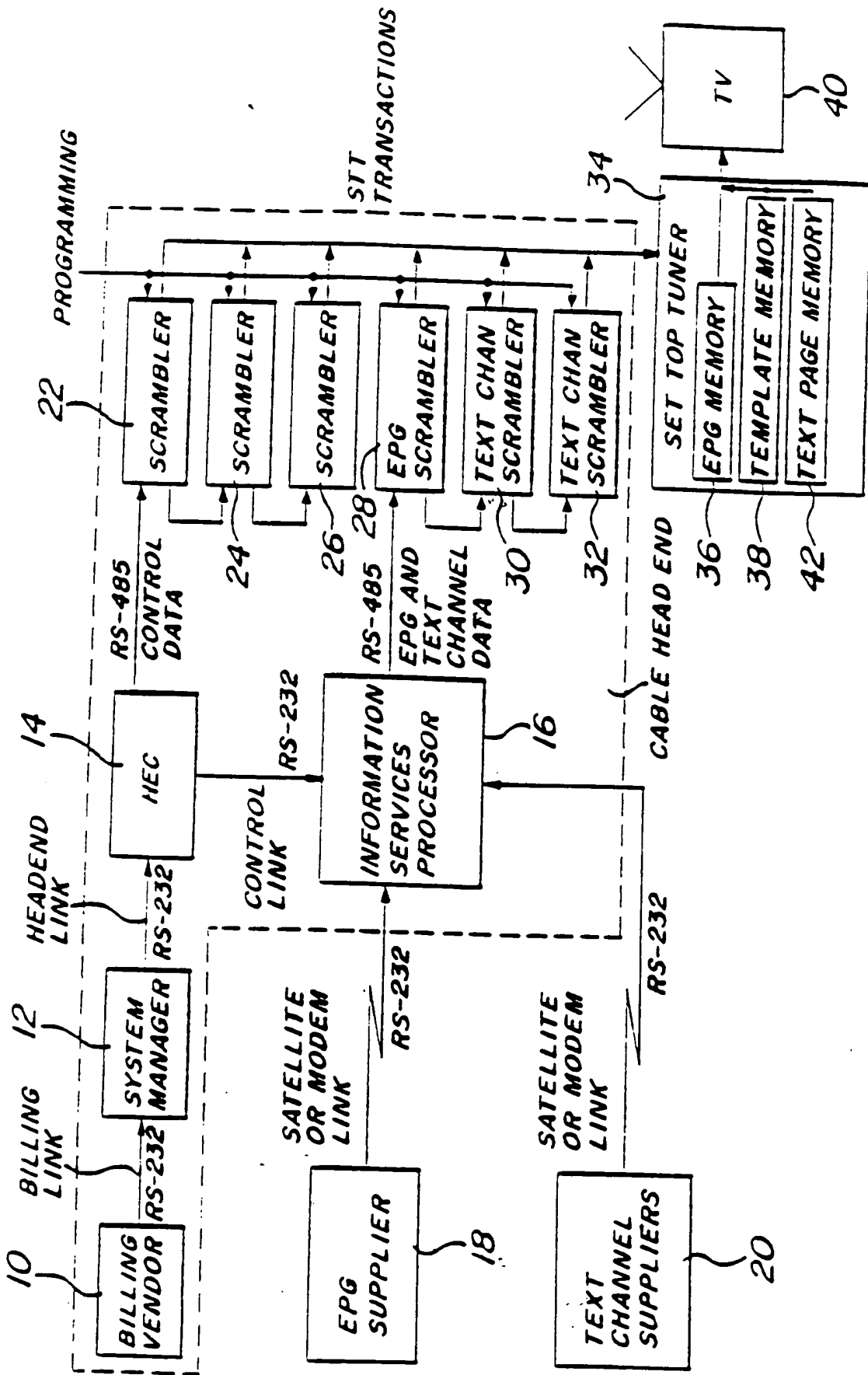


Figure 27

— • —



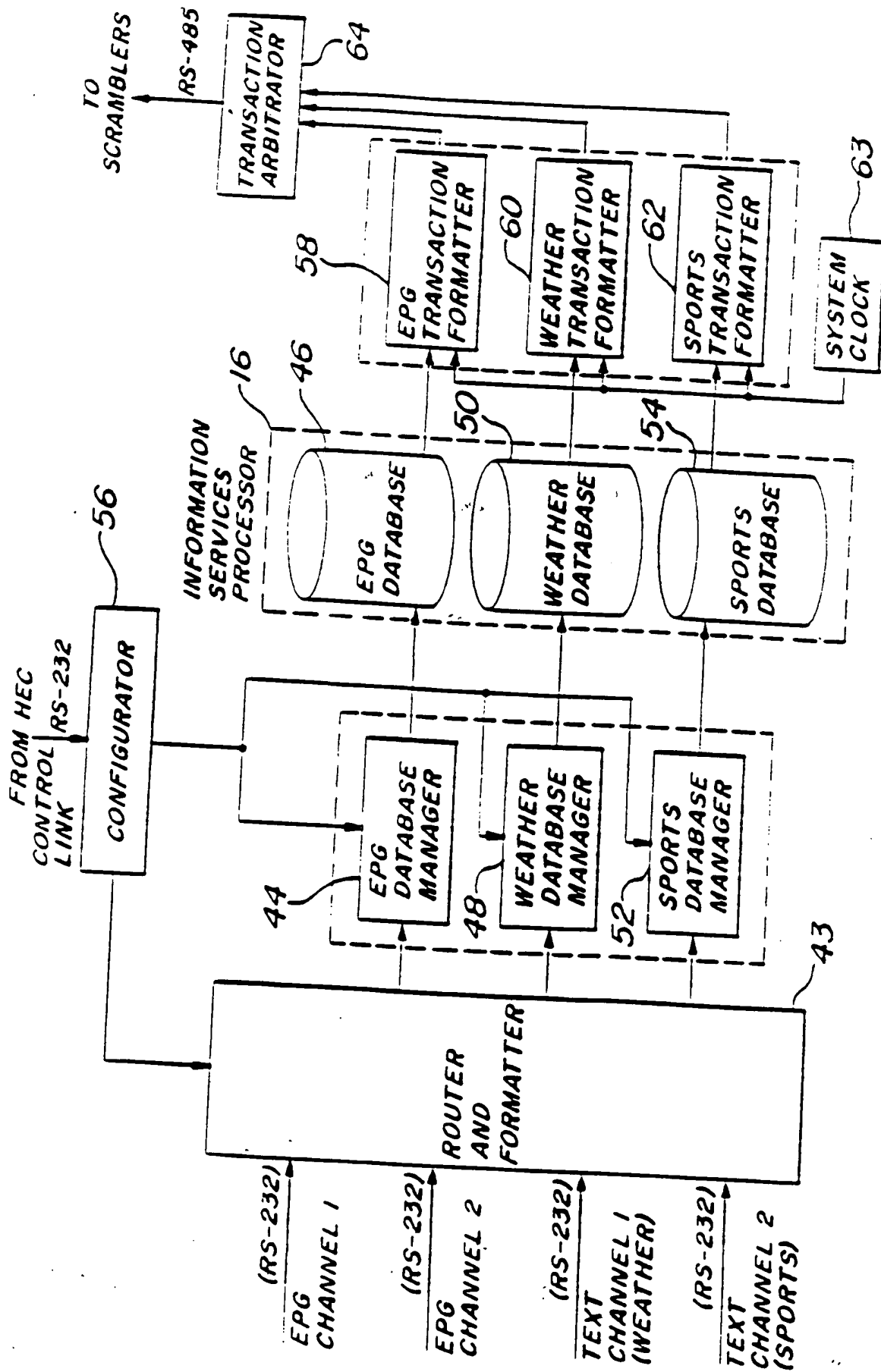
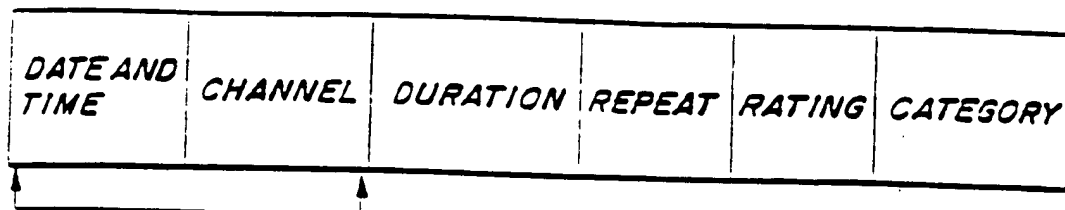
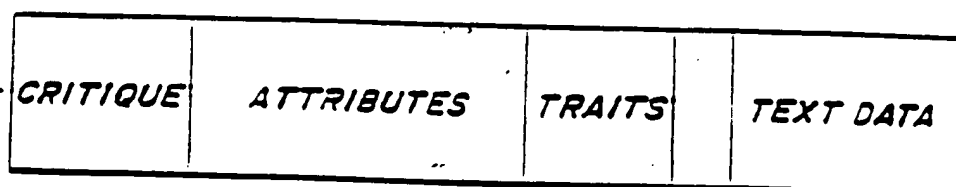


Figure 29

(INFORMATION FIELD)



RECORD KEY



COMPRESSED

Figure 30

(TO SCRAMBLERS)

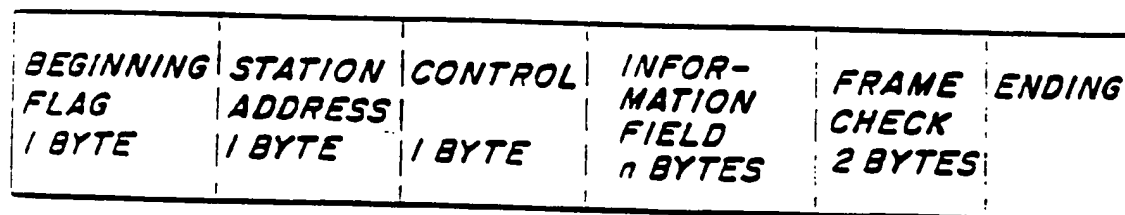


Figure 31

00130 2425560

EPG TRANSACTION FORMATTER 58

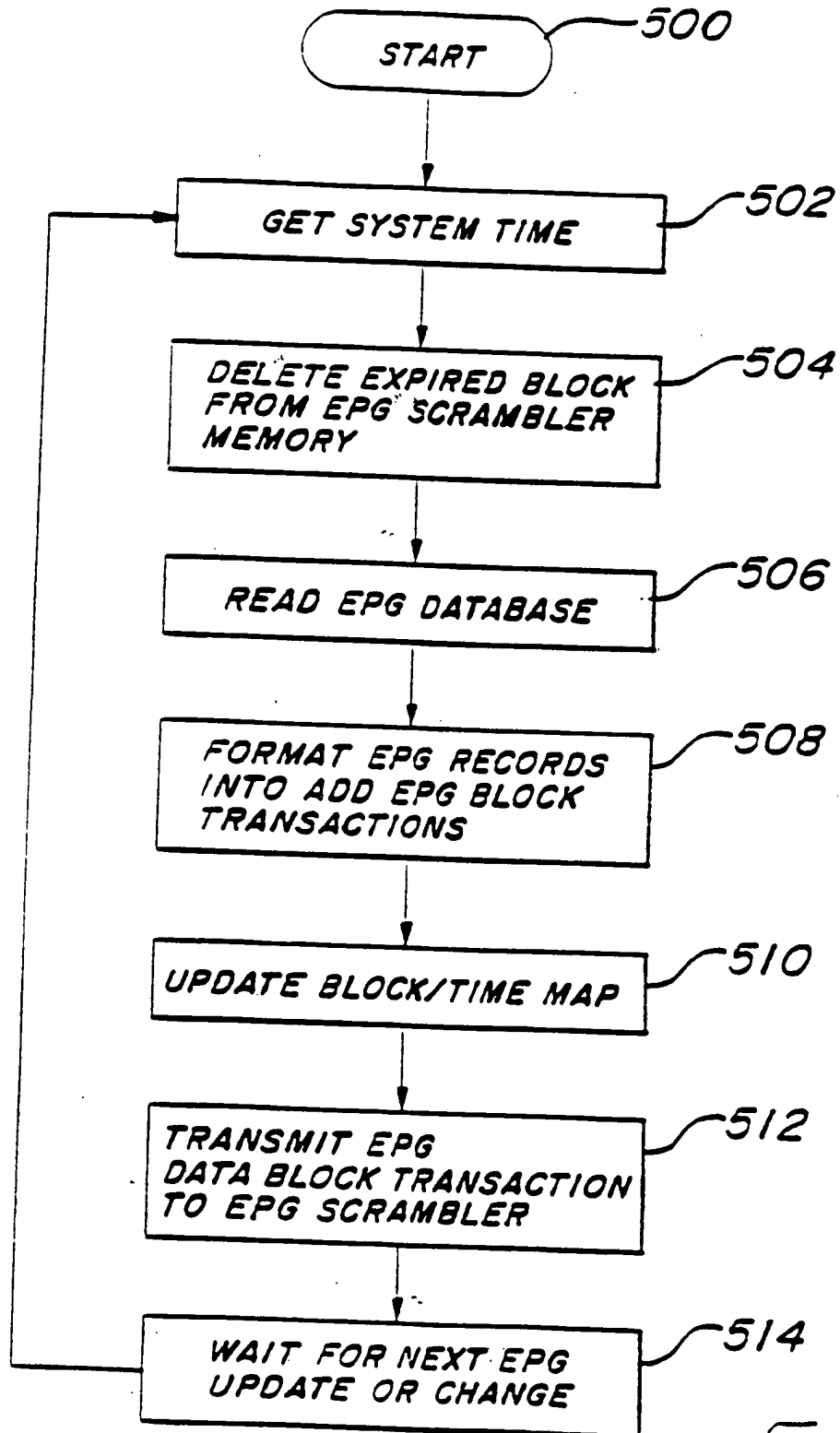


Figure 31

001E80-8/429960

TEXT CHANNEL TRANSACTION FORMATTER 60,62

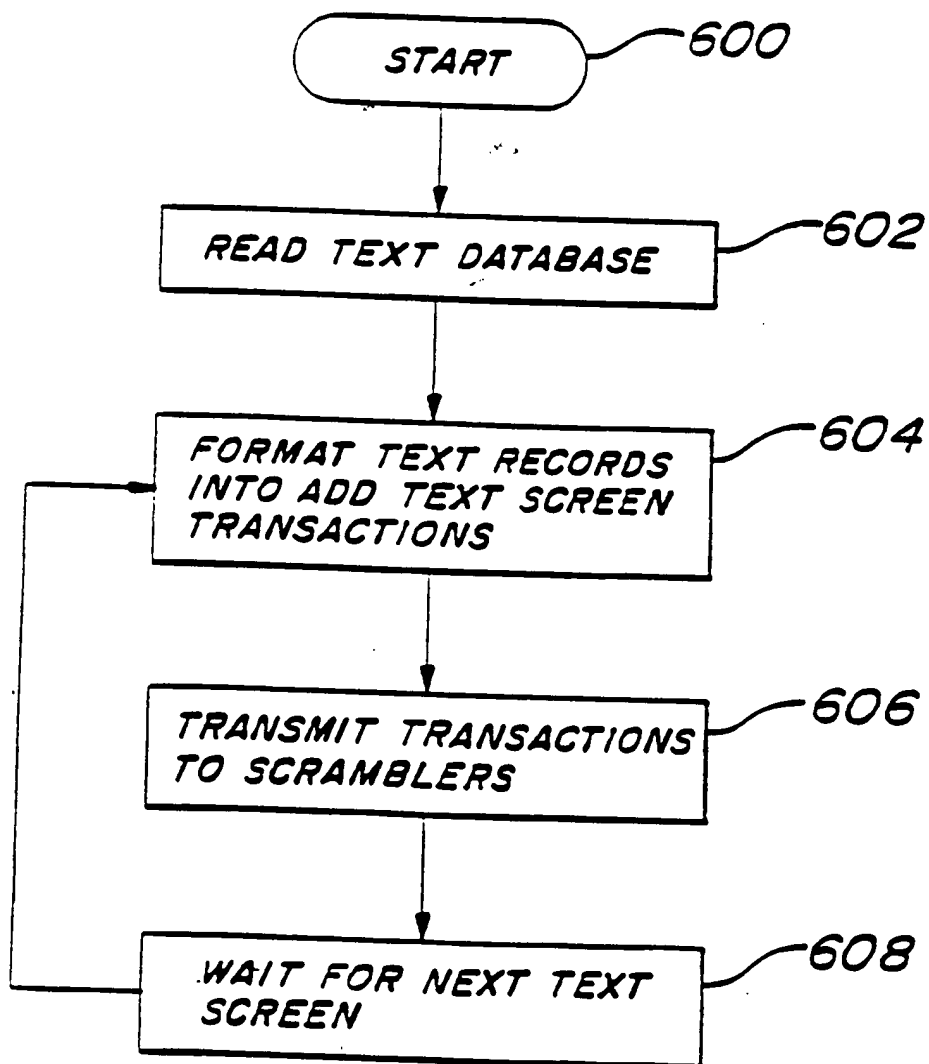


Figure 33

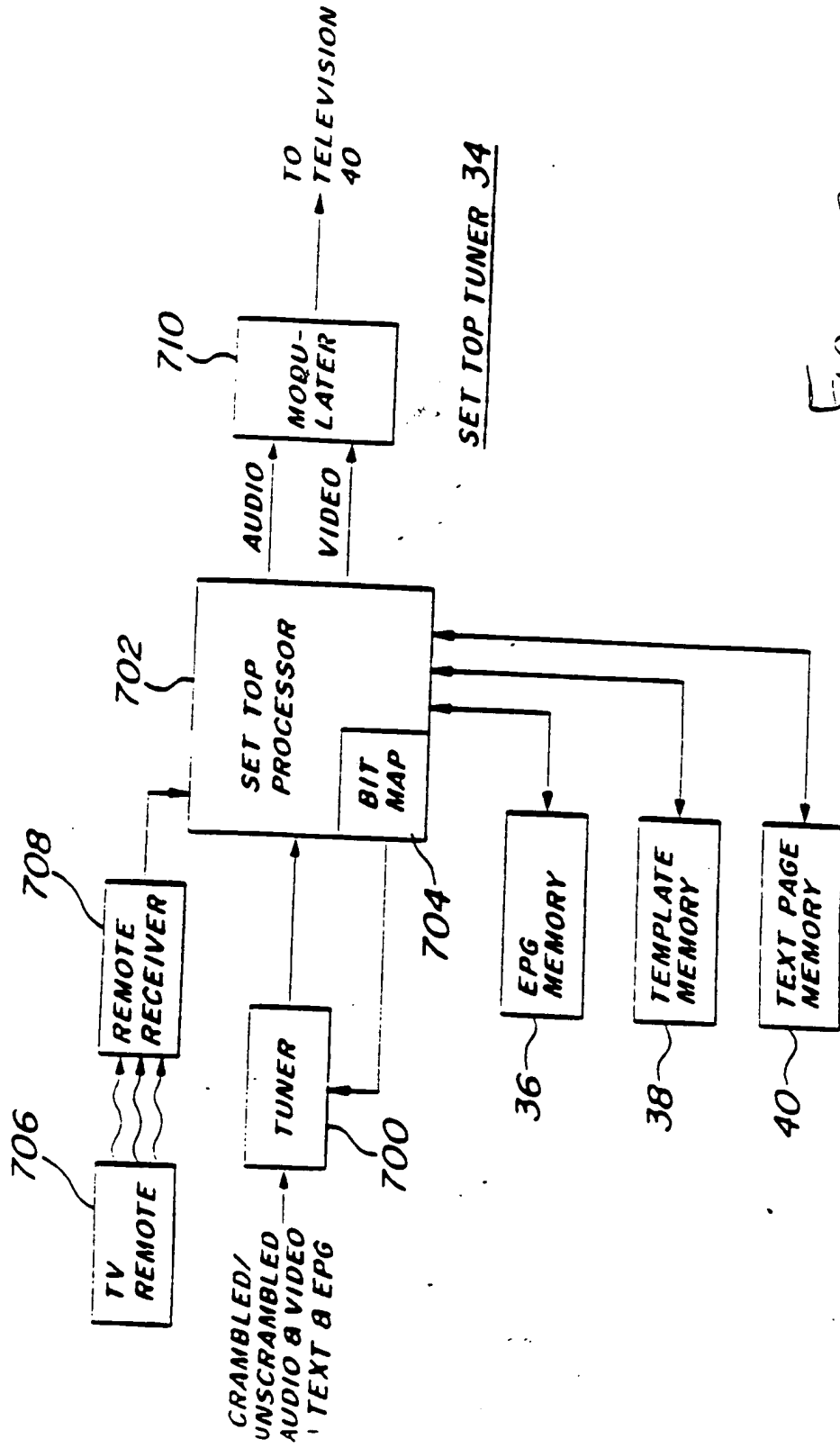


Figure 34

Process for automatically creating multiple profiles and
automatically identifying currently active profiles

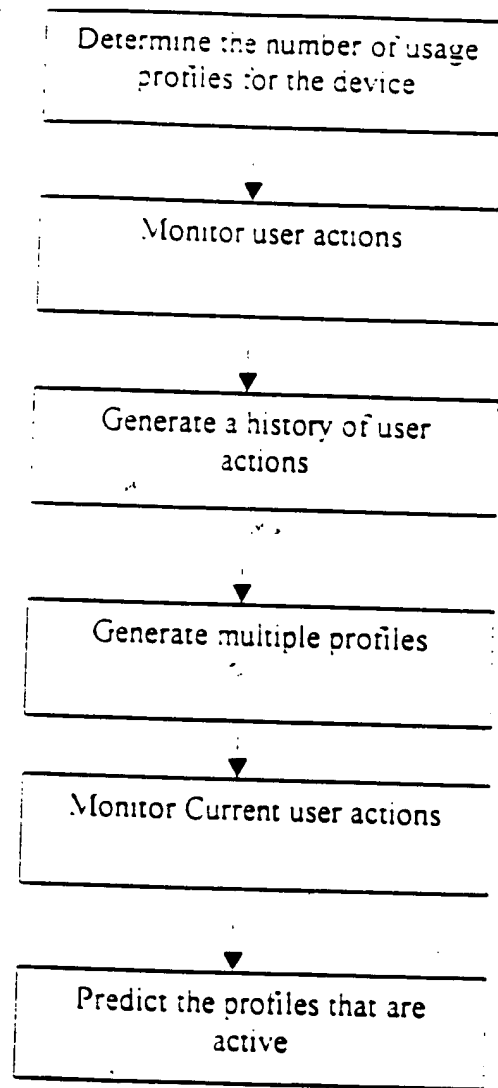


Figure 35

001E80 8/7/2550

Process for generating multiple profiles

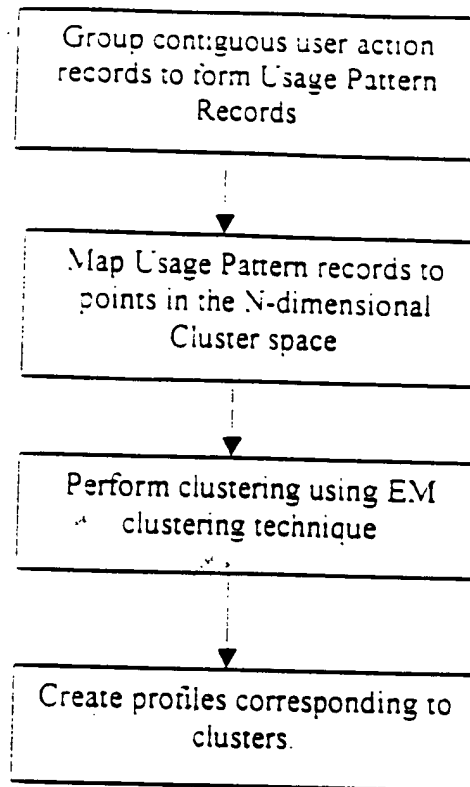


Figure 36

09652478:083100

```

Action
StartTime
EndTime
Parameters

```

B) Format of user action record

Channel Change.
38720100
38720110.
NBC

B) Example of user action record

Number of Action records
Action record 1
Action record 2

Number of Action records
Action record 1
Action record 2

Number of Action records
Action record 1
Action record 2

Acuon record N

C) Format of History database

Number of Action records
Action record 1
Action record 2

Number of Action records
Action record 1
Action record 2

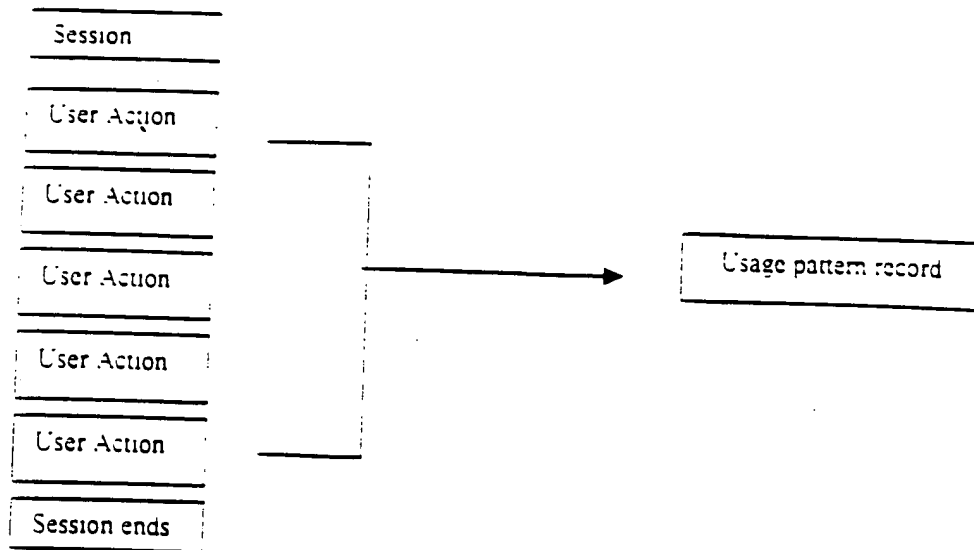
Number of Action records
Action record 1
Action record 2

Acuon record N

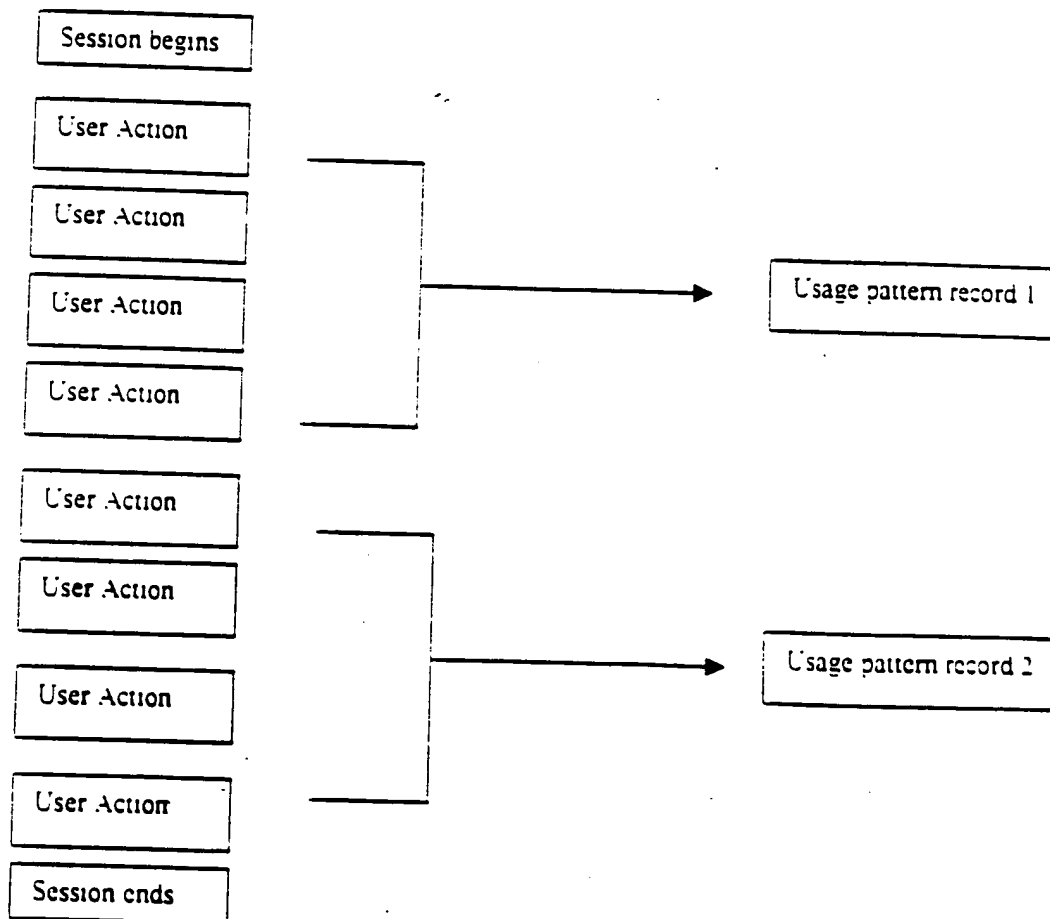
D) Format of Usage pattern record

[illegible]

Figure 37



A) One method for creating usage pattern

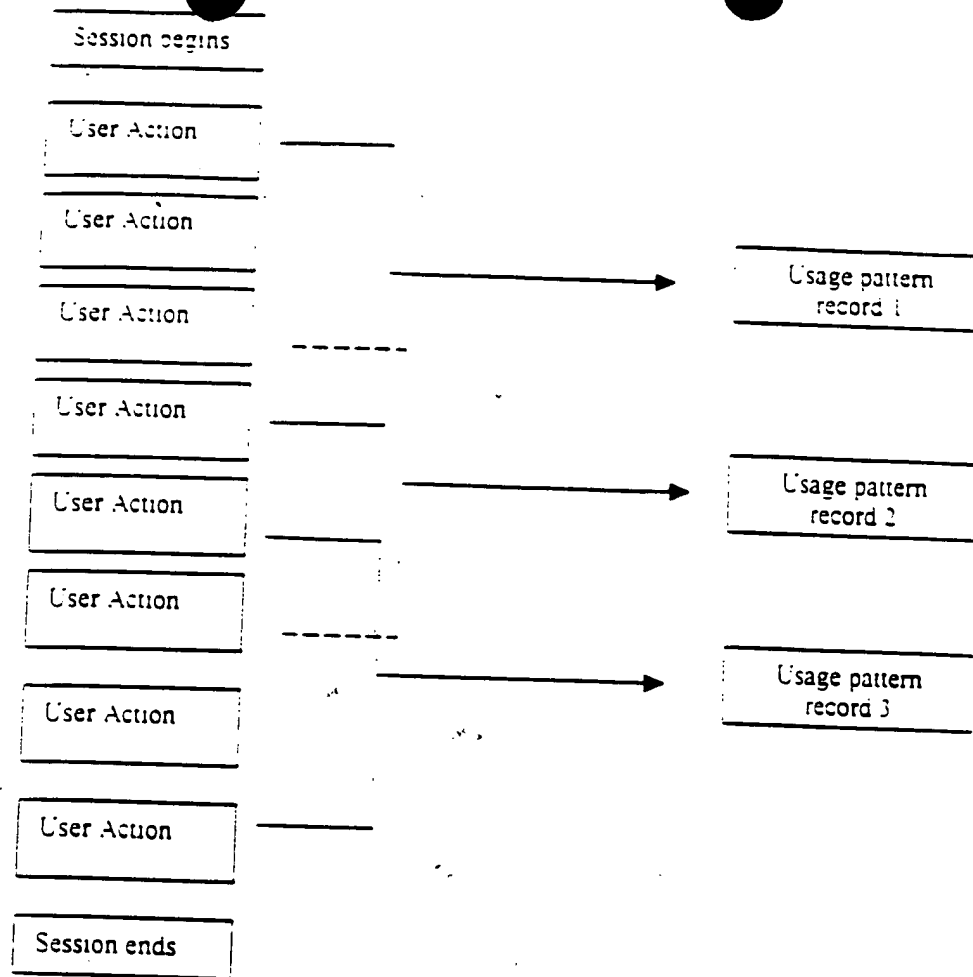


B) One method for creating usage pattern

Figure 38

00480 8742550
0953478 083400

001.E80 B2H25960



One method for creating usage pattern record

Figure 39

Process for Predicting currently active profiles

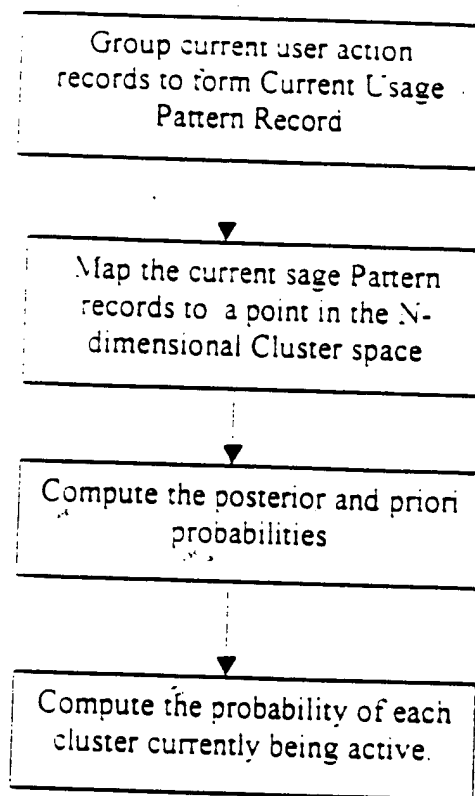


Figure 40

001230 02125900

Profile Creation using Generated Clusters

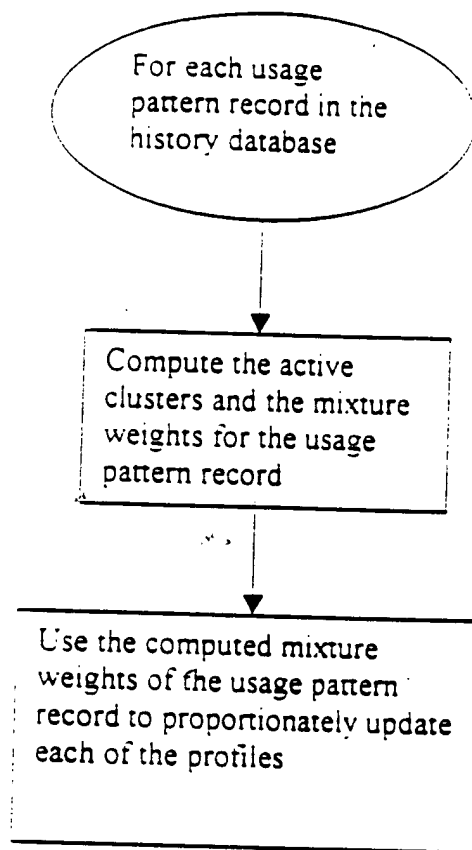


Figure 41

001E90-8425960

Targeted Electronic Content Distribution without compromising privacy of users

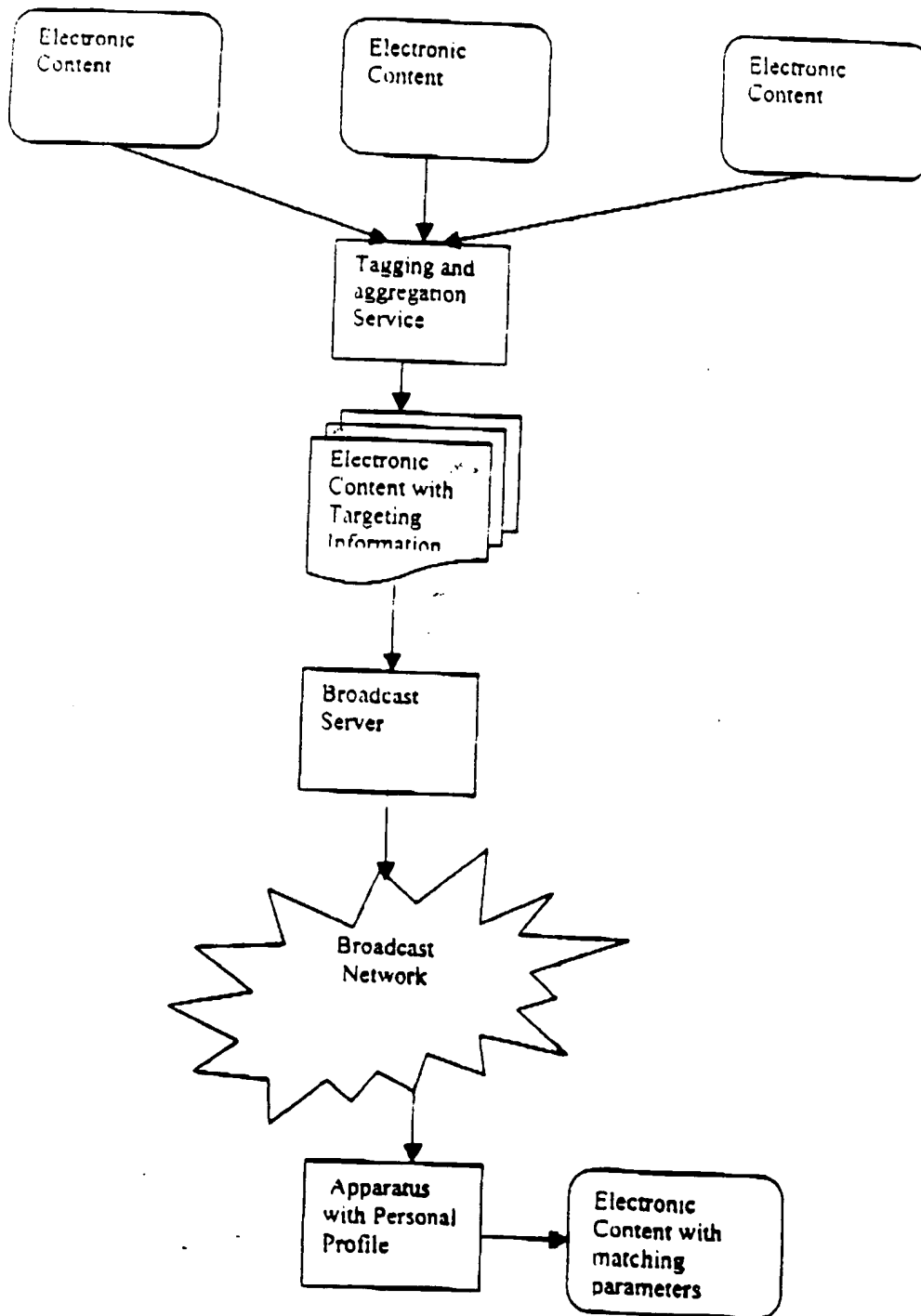
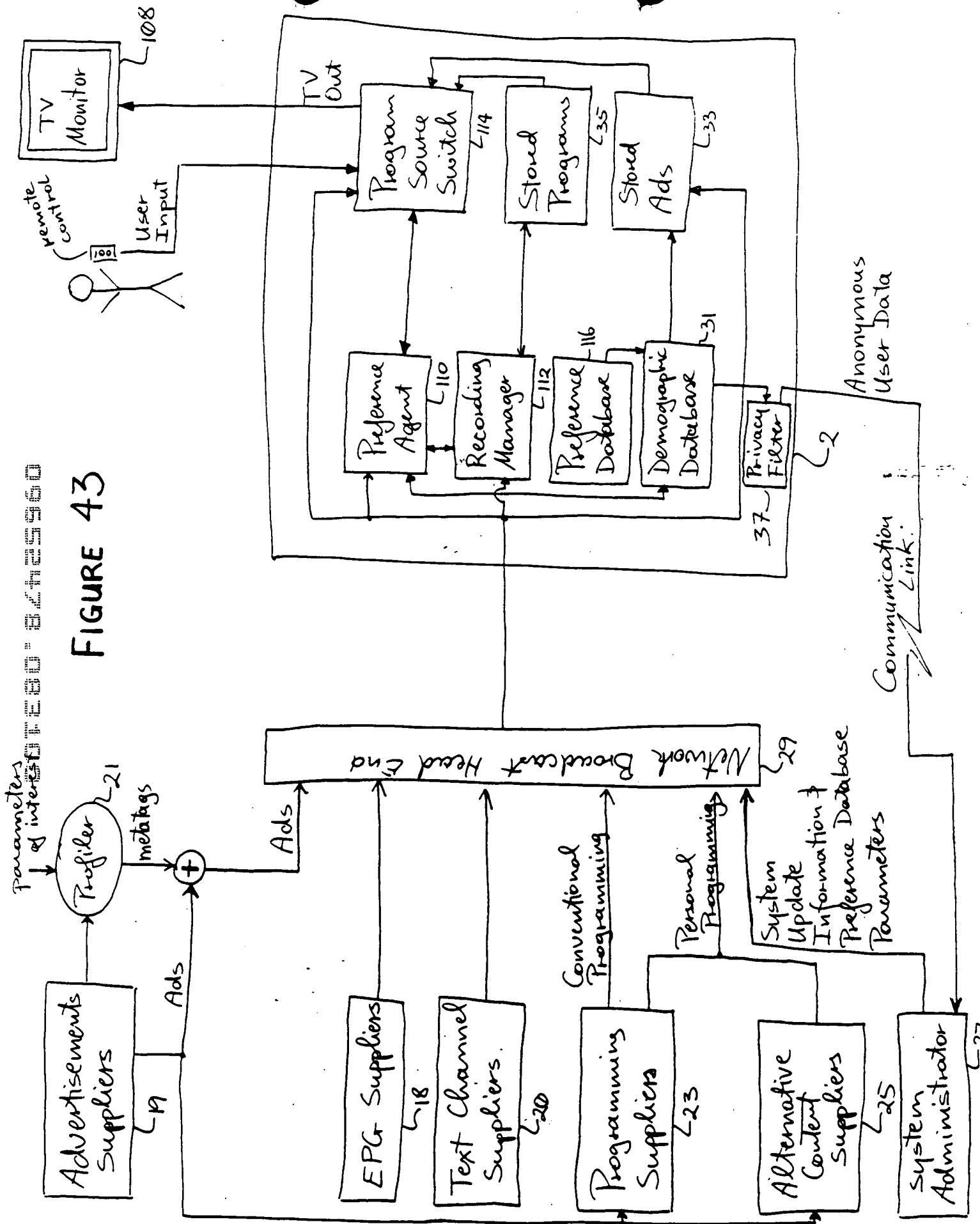


FIGURE 42

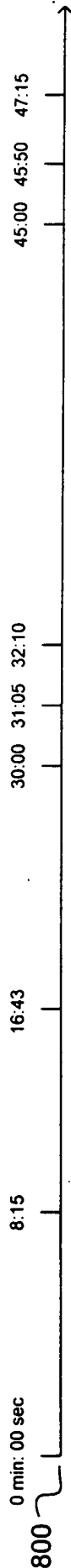
FIGURE 43



Conventional Linear Programming

Scene 1	Scene 2	Scene 3	Ad 1	Ad 2	Scene 4	Ad 3	Ad 4
---------	---------	---------	------	------	---------	------	------

Timeline



Customized Linear Programming

Scene 1	Scene 2	Scene 3	Ad 1	Ad 2	Scene 4	Ad 3	Ad 4
	Scene 2a	Scene 3a	Ad 1a	Ad 2a		Ad 3a	Ad 4a
		Scene 3b	Ad 1b	Ad 2b			Ad 4b
			Ad 1c	Ad 2c			

Customized Linear Programming with Variable Scheduling

Scene 1	Scene 2	Scene 3	Ad 1	Ad 2	Scene 4	Ad 3	Ad 4
	Scene 2a	Scene 3a	Ad 1a	Ad 2a		Ad 3a	Ad 4a
		Scene 3b	Ad 1b	Ad 2b			Ad 4b
			Ad 1c	Ad 2c			

Figure 44.